New Orleans Medical
and
Surgical Journal

Vol. 91 AUGUST, 1938 No. 2

## THE FAMILY DOCTOR*

C. C. de GRAVELLES, M. D.
NEW IBERIA, LA.

During the great exodus from general practice to the specialities several years ago, many thought that the family doctor was a thing of the past. Time has shown, however, that he will always remain a part of the practice of medicine—an essential and highly desirable part. The general practitioner, the family doctor, is the first thought when a medical or surgical emergency arises in the home. Through the general practitioner the patient is, in the vast majority of instances, first brought into contact with the medical profession. Even if this great specialist, this specialist in family practice, decides that the skill of another specialist is required, he has at least served as a clearing house for the case.

The older ones of us who have known personally and with some degree of intimacy a general practitioner of the horse and buggy days of our civilization, can well appreciate the wide variety of changes which have affected the practice of medicine during the past fifty years. The science of medicine has progressed more in these fifty years than in the preceding ages since the coming of man. While this great progress was being made in the science of medicine, equal progress was made in the other sciences. The American public is daily confronted, in industry, business and home, with changes designed to increase efficiency or comfort. Living in such an age, we cannot blame the laity for applying the modern yardstick to the medical profession. More people are reading now, and, due in large part to publicity given in the lay press to the proceedings of all scientific meetings, it is possible for them to read more about medicine than heretofore. This attitude of the general public places upon the practitioner the responsibility of keeping up with the continuous advances in medicine.

Whether it be for the relief of pain or for improvement in function, it is the search for treatment that brings most patients to the physician. But before appropriate treatment can be prescribed, an accurate diagnosis must be made. Thus, the general practitioner of today must possess keen diagnostic ability. By the use of adequate time, properly attuned senses, and logical thinking, the general practitioner can make a proper working diagnosis in the vast majority of his cases. Having arrived at a proper diagnosis, treatment is in order. The next question is: What shall we prescribe or dispense?

Medicine is defined as: "(1) Any drug or remedy; (2) the art or science of healing diseases, especially by the administration of internal remedies." In most of our states the osteopath is permitted to practice most branches of surgery and physical therapy; in many, the chiropractor has only slightly less authority; and the Christian Scientist, the faith healer, and many other pseudo-medical cults and isms, practice their more or less gentle arts unmolested. But we, and we alone, as Doctors of Medicine, are legally entitled not only to prac-

*Chairman's address presented before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938, at New Orleans.

tice surgery and to do all that can be done by any and all of these means to alleviate pain and cure or arrest disease, but we in addition have the authority to administer such medicines as the case in hand seems to require. We should not complain when others, whom we stigmatize as incompetent, make use of healing measures which they have as good a legal right to employ as we have, while we continue to neglect the cultivation and development of the one line of therapeutics to which our right is exclusive.

In our strenuous efforts to keep up with the latest discoveries and announcements regarding ultraviolet, infra red and so forth, let us not become so absorbed as to forget that we are Doctors of Medicine. While physical agencies and surgical and laboratory technics have been rushing forward at an astonishing pace, internal medicine has not been standing still. Hundreds of the well-known prescriptions have been prepared by pharmaceutical manufacturers and are now available for dispensing or the immediate filling of prescriptions. The decision to use or to avoid a new preparation, particularly when it is enjoying a wave of lay and even medical popularity, is a difficult one, and a problem which repeatedly confronts the general practitioner. If there is any short rule to cover this, it is to use care and caution in the adoption of any new drug. The discovery and development of new and powerful drugs has been as notable a feature of the last decade or two as has the invention of new pieces of apparatus; and the development of the technic and application of medication has been no less significant than the progress in other technical lines.

Let us study our drugs, new and old, and the most modern and effective methods of administering them; let us study our patients, intensively and individually. Thus, and only thus, can we hold our rightful place as Doctors of Medicine, and keep this branch of science on the high plane to which it is justly entitled. When we have done this we can honestly and fearlessly challenge any or all who would try to supplant us in the gratitude of our patients and in the respect and esteem of our communities.

# SYPHILIS

## A SYMPOSIUM*

## GENITO-URINARY ASPECT

JOHN G. MENVILLE, M. D.†
NEW ORLEANS

In 1767 John Hunter contracted gonorrhea, chancroid and constitutional syphilis after inoculating himself with pus from a virulent case of gonorrhea. Hunter's theory that all three diseases were caused by gonorrheal pus was disproved in 1838 by Ricord. The causative agent, Treponema pallidum, was discovered by Schaudinn and Hoffmann in 1905. The incubation period of the primary lesion is 10 to 30 days and the site of predilection is the corona or the inner leaf of the prepuce, near the glans. The lesions are painless, indurated, usually single and 70 per cent are associated with enlarged painless adjacent lymph nodes.

Syphilis of the urethra occurs in approximately 4 per cent of the penile chancres and is usually found at or near the fossa navicularis. Pain, discharge and induration are the principal symptoms and signs. The pain occurs at the end of micturition, the discharge may be watery, seropurulent or bloody, while the induration varies from a firm to a cartilaginous type. The diagnosis is not difficult if one realizes the possibility of its existence. The luetic lesions may progress to ulceration, phagedena and stricture formation. Primary lesions have to be differentiated from chancroids, multiple herpetic eruptions and epitheliomas. A diagnosis is made by dark field examination, local and blood Wassermann. However, it may be necessary to resort to a biopsy for a correct diagnosis.

Tertiary syphilis appears as an ulceration or a gumma eight to twenty years after the primary lesion and is usually located at the head of the penis. The diagnosis is made by a careful physical examination, examination of the discharge and a Wassermann. The lesion must be distinguished from gangrenous balanitis and epithelioma. Phagedena, fistula and stricture formation may be complicating factors.

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*Read before the Orleans Parish Medical Society on November 8, 1937.

†From the Department of Urology, Tulane University School of Medicine.

The treatment is essentially antiluetic and the prognosis is good if treatment is begun early and particularly before stricture formation and much tissue destruction has taken place.

Extragenital chancres occur in 6 per cent of the cases and may be found on any surface of the body except the hair, nails and teeth.

Syphilis of the prostate is rare, produces few symptoms and presents no characteristic sign. It becomes manifest as late as 39 years after the primary lesion. A diagnosis may be made by a biopsy or ventured in the presence of a positive Wassermann where the symptoms subside under specific treatment. The treatment is antiluetic.

Syphilis of the seminal vesicles is so rare that it is seldom seen at postmortem. Syphilis of the spermatic cord is rare. Gummas have been reported in seven cases. Clinically, there is either a thickening or a tumefaction of the spermatic cord. In such cases, tuberculosis and tumors have to be ruled out. The diagnosis is difficult. The treatment is antiluetic.

Syphilis of the epididymis may appear in the form of an acute or chronic interstitial epididymitis or as a gumma. In the acute and chronic forms the lesions may appear as late as five and seven years respectively after the primary lesion. The characteristic feature of the disease is that it first attacks the globus major and spreads by extension. Gummas present themselves as multiple lesions which may break down with fistula formation. The diagnosis is difficult and is made on the history of infection, the location of the lesion and a positive Wassermann. The treatment is antiluetic but if extensive fibrosis has occurred an epididymectomy may be necessary for the relief of pain.

Syphilis of the testicle occurs as an interstitial orchitis or as a gumma. Symmers states that 39 per cent of late acquired syphilis shows testicular involvement while Herman is of the opinion that the bone marrow and testicle contain spirochetes before the appearance of the chancre. Hinman states that pathologically the testicles of all syphilitics may be said to be diseased. If the orchitis is sufficiently extensive there is a loss of sexual desire and sterility. In interstitial orchitis the testicle is usually smooth and indurated while in gumma formation the testicle is enlarged, rounded, nodular, heavy and insensitive to pressure. The lesions have to be differentiated from neoplasm and tuberculosis. Doubtful cases should be explored and then, if the diagnosis is not certain, the testicle should be removed.

Syphilis of the bladder occurs in the secondary and tertiary stages. A syphilitic cystitis occurs during the stage of severe secondary eruptions and produces the symptoms of acute and chronic cystitis. Cystoscopically one may see congestion, mucous patches, ulceration, and, in untreated cases of long standing, a papular syphiloderm which may have all the characteristic appearances of papilloma of the bladder. The diagnosis is based on a history of infection, positive Wassermann tests, biopsies and the ruling out of other forms of cystitis.

In tertiary syphilis of the bladder hematuria is the most constant sign. Cystoscopically one sees ulcerations with infiltrated edges. This condition has to be distinguished from carcinoma, simple, and tuberculous cystitis and from the elusive ulcers of Hunner. The treatment is antiluetic.

A tabetic bladder in the late stages presents typical findings yet in the early stages frequency, dysuria, with or without residual urine, may be present without tabetic symptoms. In the latter case, a diagnosis may be ventured on the presence of a positive spinal fluid and the absence of certain reflexes. The cystoscopic picture of a tabetic bladder depends on the duration, extent and severity of nerve destruction. In general, the bladder tone is poor, the bladder capacity is great, the walls of the bladder are trabeculated, the interureteric bar is elevated, with the formation of a deep bas-fond, and the bladder neck is relaxed. The diagnosis may be difficult in the presence of a median bar or prostatic hyperplasia. The systemic treatment is that of cerebrospinal lues. Local treatment should be resorted to as seldom as possible and is usually necessary merely to combat complications. In uncomplicated cases with a normal urea the bladder should not be disturbed. Teaching the patient to compress the suprapubic region with his hands is a distinct aid in emptying the blad-

der. Fluids should be given freely and urinary antiseptics used. The prognosis depends on the amount of irreparable nerve destruction, cardiovascular involvement, the presence of infection and the general condition of the patient. Patients usually die from renal insufficiency or infection.

Syphilis of the ureter is rare. It is recognized only at autopsy.

Syphilis produces acute parenchymatous nephritis and gumma of the kidney. Acute parenchymatous nephritis is characterized by progressive edema, weakness, anemia and the passage of small amounts of urine. The urine contains albumin, lipoid substances and casts. The kidneys are large and grayish-yellow. Microscopically the glomeruli are intact but there is cloudy swelling and fatty degeneration of the tubules. In severe cases small doses of arsphenamine should be given. Bismuth and mercury are advised after the edema has subsided. When properly treated the edema disappears within several weeks, the urine increases in amount but the albumin remains.

Gumma of the kidney becomes evident seven to twenty years after the original infection as circumscribed miliary nodules of varying sizes in the cortex of the kidney. The lesions may undergo degeneration, and open in the pelvis. Gummas have been observed at operation but it is doubtful if any have been diagnosed preoperatively. In the presence of a pyelographic deformity, a positive Wassermann and improvement under antiluetic treatment a diagnosis is possible. However, all doubtful cases should be explored.

SUMMARY

Urogenital syphilis is a common expression of a very prevalent and important disease.

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## MEDICAL ASPECTS OF SYPHILIS

EDGAR HULL, M. D.†
NEW ORLEANS

The principal medical problems which syphilis presents to the physician relate to the diagnosis of visceral and cerebrospinal syphilis, and to the recognition of latent or asymptomatic syphilis in patients whose symptoms are due to other causes. The problem of treatment should give him much less concern, for specific treatment of late syphilis is never an emergency measure, and once the diagnosis is made, there is ample time to review the therapeutic details in the standard textbooks, such as those of Moore, Stokes, and Schamberg and Wright. It is very important, however, that the clinician familiarize himself with the details of the treatment of late syphilis of the different internal organs if he is to escape disastrous results. A good rule is to proceed with great caution in the treatment of syphilis which involves vital organs, such as the heart and liver, and with more aggressiveness in the case of less vital structures, such as the stomach, skin and bones.

It has been stated that a high index of suspicion is a principal prerequisite to the diagnosis of syphilis. This, of course, is true, but it is also true of the diagnosis of all diseases whose symptoms may be obscure or equivocal, and the physician must recognize these diseases as well as syphilis. Too high a suspicion index toward one or a few diseases will inevitably cause others to be missed. Better than unjustified suspicion is thoroughness and a reasonable amount of knowledge.

### STUDY OF THE PATIENT

The thoroughness should consist of a complete account of the patient's symptoms, the story of his past illnesses, his family and social histories, a carefully performed physical examination, and a certain minimum of routine laboratory tests. A blood Wassermann test should be a routine procedure in the examination of all office as well as hospital patients; its cost to the patient is small, and it is just as apt to give valuable diagnostic clues as is the urinalysis, or blood count, or stool examination. A positive Wassermann is often the only symptom of latent

†From the Department of Medicine, Louisiana State University Medical Center, New Orleans, La.

syphilis, and is frequently the most valuable clue in establishing the syphilitic nature of visceral lesions. The thoroughness should further include a careful appraisal of the data gathered in the case work-up; frequently enough the evidence of syphilis is ascertained only to be ignored or overlooked.

The "reasonable amount of knowledge" should include a clear concept of the lesions that may be present in late syphilis, and of the manifestations that may be due to these lesions. It should also include a very definite knowledge regarding points in the past history that are suggestive of syphilis. If this knowledge is at hand and the physician is thorough, it is not likely that the suspicion of syphilis will fail to appear if the patient actually has syphilis. Frequently, however, the physician will not be able, from the routine work-up and his reasonable knowledge, to confirm or to clear his suspicion; in this case, he must resort to special methods of investigation, such as the spinal fluid Wassermann, the provocative Wassermann, and the therapeutic test, and to further reading so that his knowledge may be increased.

### THE LESIONS AND MANIFESTATIONS OF LATE SYPHILIS

The overwhelming majority of late syphilitic lesions involve the skin, the bones, the central nervous system, and the heart and aorta. Clinical involvement of other viscera is much less frequent, but syphilis of the stomach, liver, spleen, bronchi, and lungs occurs sufficiently often to be clinically important. Although cutaneous, osseous and cerebrospinal syphilis do not fall within the scope of this discussion, it should be remembered that changes in the skin or bones, or abnormalities of the reflexes may furnish important inferential aid in the diagnosis of visceral or asymptomatic syphilis.

Involvement of the aorta is the most important syphilitic lesion which lies within the field of the internist. Syphilitic aortitis may lead to aneurysm, and in addition may affect the heart in two ways: first, by causing the development of aortic regurgitation; and second, by being responsible for narrowing or occlusion of the coronary arteries at their mouths. The symptoms of aortitis are thus the symptoms of aneurysm, of coronary disease, or of cardiac insufficiency. The signs in far advanced cases are those of aneurysm or of aortic regurgitation, or of both. In cases of aortitis without aneurysm or regurgitation, there may be no signs or one or more of the following may be present: accentuation of the aortic second sound; systolic aortic murmur; slight or moderate dilatation of the aorta as seen by the fluoroscope or in the roentgen ray plate; changes in the electrocardiogram affecting principally the T waves.

Syphilis of the liver is quite common, probably occurring in as great as 15 per cent of all cases of syphilis, but significant symptoms due to syphilitic liver disease are not frequent in medical practice. The clinical types of late hepatic syphilis include the following: mild types of late hepatic syphilis, producing asymptomatic enlargement of the liver; diffuse gummatous hepatitis, or syphilitic cirrhosis; circumscribed gumma of the liver and perihepatitis. Syphilitic cirrhosis may mimic Laennec's cirrhosis in all its clinical symptoms, or may be confused with malignancy of the liver if, as often happens, the palpable portion is grossly nodular. Gumma and perihepatitis may cause the appearance of tumors in the upper abdomen which may be mistaken for tumors of the gallbladder, pancreas, or stomach. Long continued low grade fever is frequent in hepatic syphilis.

Syphilis of the spleen commonly co-exists with hepatic syphilis; it may only produce asymptomatic splenomegaly, or may give rise to a Banti-like syndrome.

Syphilis of the stomach is not common, although patients with syphilis frequently have complaints referable to the stomach. These complaints are for the most part due to cerebrospinal syphilis, to non-syphilitic disease of the gastrointestinal tract, and to neurasthenia. Stokes reported that of 200 patients with syphilis who complained of gastric trouble, only eight had true syphilis of the stomach.

Syphilis may cause a diffuse or localized gummato-ulcerative lesion of the stomach which closely mimics carcinoma, and is also thought to be responsible for an uncertain percentage of cases of gastric (not duodenal) ulcer. The principal points in differentiating gastric sy-

philis from cancer are, in the former, the lower age incidence (average age 35 years), the absence of blood in the gastric contents, the much slower development of cachexia, the preservation of a good appetite, the Wassermann reaction (positive in 90 per cent), and the prompt response to anti-syphilitic treatment. The physician must not be too syphilis conscious in his consideration of gastric lesions, lest he fail to realize his ambition of turning over to the surgeon a patient with a curable cancer of the stomach.

Syphilis of the small intestine and colon are almost unknown. Syphilis of the rectum, formerly considered to be the most common cause of stricture, is now known to be quite rare.

Bronchial and pulmonary syphilis are also rarities. Bronchial syphilis may consist of obstructive lesions that may be confused with carcinoma; pulmonary syphilis may be manifested as a solitary gumma, or as a diffuse infiltrative lesion that may be mistaken for tuberculosis. The differentiation lies in the collateral evidence of syphilis and the repeated absence of tubercle bacilli from the sputum.

### DIAGNOSTIC DATA

Keeping in mind the few facts just given regarding visceral syphilis, we may enumerate some of the data which, if present in the case record of a patient, should suggest to the physician the possibility or probability of syphilis. Some of these points are only slightly suggestive, others are strongly so; only a few, if taken alone, are definitely diagnostic.

*In the past history*: (1) genital lesion; (2) rash which might have been secondary lesions; (3) gonorrhea (25 per cent of patients with syphilis give a history of gonorrhea, with no recollection of a chancre or secondary rash, according to Stokes); (4) positive Wassermann reaction; (5) repeated miscarriages.

*In the present illness*: (1) Angina pectoris or cardiac pain in patients under 45 or 50 years of age; (2) symptoms of cardiac insufficiency in the same age group; (3) the picture of coronary occlusion in the same age group; (4) neurasthenic symptoms appearing for the first time in persons past 35; (5) symptoms suggesting cancer of the stomach in persons under 40; (6) symptoms suggesting disease of the central nervous system, the cause of which is not apparent, especially hemiplegia or convulsive seizures in relatively young subjects whose blood pressures are not high; (7) unexplained prolonged fevers.

*In the physical examination*: (1) genital scars, or scars which bear the earmarks of early or late cutaneous syphilis; (2) lymphadenopathy, general, or epitrochlear, or posterior cervical; (3) stigmata of congenital syphilis—rhagades, Hutchinsonian teeth, saddle nose; (4) accentuation of the aortic second sound, or systolic aortic murmur, or both, in a non-hypertensive subject under age 50; (5) signs of aneurysm or of aortic regurgitation; (6) unexplained enlargement of the liver or spleen; (7) unidentified masses in the upper abdomen; (8) abnormalities of the pupils—inequality, irregularity, or changes in the reflexes; (9) abnormalities of the deep reflexes, especially absence or diminution; (10) positive Rhomberg test.

*In the laboratory examination*: (1) Positive Wassermann reaction.

### CONCLUSIONS

Finally, the physician should be acutely aware of the fact that a single negative blood Wassermann does not rule out syphilis if other data have given rise to a definite suspicion of its presence. In such a case, simple repetition of the Wassermann may disclose a positive reaction, or the Wassermann test of the spinal fluid may be positive. Negative reactions in both the blood and spinal fluid will probably be encountered in less than 10 per cent of all cases of syphilis. Provocative Wassermanns should occupy a very small place in the diagnosis of visceral syphilis, especially in the case of suspected cardiac or hepatic disease, because of the disastrous results that may follow a Jarish-Herxheimer reaction in lesions of these vital organs. The therapeutic test is safer, but it should be remembered that clinical improvement in luetic aortitis and diffuse hepatic syphilis can be expected only in early lesions, before irreparable damage has been done. The corollary of this statement is the fact that the physician should make every effort to diagnose late syphilis in its asymptomatic or early symptomatic period, when specific therapy yet offers hope of cure or arrest of the syphilitic lesions.

## CUTANEOUS SYPHILIS

JAMES K. HOWLES, M. D.
NEW ORLEANS

With the advent of the improved laboratory diagnosis of syphilis which we are experiencing today the enigma of the clinical diagnosis of syphilis has been partly alleviated. The keenness of observation which was characteristic of the old clinician, enabled him to diagnose fairly accurately much of the cutaneous syphilis that presented itself. This diagnostic acumen is made even more impressive when it is considered that the cutaneous syphilids of former years offered a much more difficult task than those that we see today. The eruptions were more virulent and required keener diagnostic qualifications. Indeed fulminating pustular, secondary syphilitic eruptions were common and the differential diagnosis from smallpox was a difficult one, especially in a patient with a preexisting syphilitic infection.

Deaths from acute syphilitic infection are extremely rare today, but in the prearsenical days they were not at all uncommon. There are many factors to be considered in the cause of the attenuation of secondary syphilids and a few are: (1) intensive method of therapy which prevents fulminating secondaries; (2) better diagnostic aids, especially the blood Wassermann and dark field examination; (3) possibly the attenuation of the strains of the causative spirochetes themselves. Analogies to this situation or phenomenon occur in other infectious diseases such as tuberculosis and diphtheria to mention only a few. (4) The increased resistance of the host must be considered although it is a moot question. Probably our present therapeutic endeavors are preventing severe cutaneous reactions and if that be the case it is not too radical to believe that the marked increase of visceral and central nervous system manifestations of syphilis that exist today may be due to a diminished immunity brought on by the absence of the severe cutaneous reactions of former years. Certainly the late sequelae are more frequent today, but possibly better diagnostic aids detect more of these complications than were formerly diagnosed.

The time allotted for this presentation is far too short to permit even a brief smattering of remarks concerning the cutaneous aspects of this great imitator so I shall endeavor to present the subject in outline form merely to stimulate interest in these bizarre syphilids.

Syphilis has wrongly been classed as a venereal disease as it is venereal only by biologic accident or necessity; (1) it requires warmth in its initial stage for the spirochetes to propagate; (2) it requires moisture as it soon dies out when dried; (3) it also requires thin skinned areas in order to enter the integument or mucous membrane.

All of these conditions are found in the genital areas so most of the primary lesions or chancres are found there. Fully 8 to 10 per cent of primary lesions are extragenital and are not associated with sexual relations. The French call the extragenital chancres "syphilis insontium" or syphilis of the innocent and in many cases they are just that.

The subject of syphilis has been brought out into the light of present day knowledge and discussion and today the problem of syphilis is a topic of discussion in every branch of society. Time necessitates a concise presentation so I shall begin with an outline of the earliest cutaneous lesions and present the type of lesion, the differential diagnosis and the diagnostic criteria of this earliest stage of syphilis—the "hard" chancre.

### PRIMARY SYPHILIS (CHANCRE)

*Genital*—at least 90 per cent of the lesions occur on the genital areas, either internal or external. Many primary lesions in the female are undiscovered because of the anatomic structure of the host and the fact that chancres uncomplicated are painless.

GENITAL CHANCRES

| MORPHOLOGY IN THE MALE | DIFFERENTIAL DIAGNOSIS |
|---|---|
| Chancre of urethra | Papilloma |
| Chancre of meatus | Erosive meatus |
| Chancre of foreskin | Balanitis gangrenosa |
| | Pseudochancre redux |
| | Traumatic excoriations |
| | Parasitic infestations |
| | Mycotic infections |
| | Condylomata lata |
| | Mucous patches |

| | |
|---|---|
| Chancre of glans | Lichen planus<br>Gumma<br>Chancroid<br>Herpes progenitalis<br>Epithelioma |
| Chancre of corona | Erythema multiforme |
| Chancre of prepuce | Balanoposthitis |
| Chancre of frenum | Tuberculous lesions |
| Chancre of shaft of penis | Psoriasis<br>Scabies<br>Pyodermia<br>Sebaceous cysts<br>Dermatitis venenata |
| Chancre of scrotum | Intertrigo<br>Venereal warts<br>Granuloma inguinale<br>Lymphogranuloma inguinale<br>Pediculosis<br>Tenial dermatitis<br>Secondary syphilids |

GENITAL CHANCRES

| DIFFERENTIAL DIAGNOSIS | MORPHOLOGY IN THE FEMALE |
|---|---|
| Chancre of labium majora<br>Chancre of labium minora | Vulvitis<br>Varicocele of vulva<br>Cellulitis<br>Condylomata acuminata<br>Condylomata lata<br>Mucous patches<br>Sebaceous cysts<br>Hematoma<br>Chancroid<br>Gumma<br>Carcinoma<br>Tuberculosis<br>Herpes vulvae<br>Mycotic infection<br>Ulcus rodens vulvae<br>Granuloma inguinale<br>Lymphogranuloma inguinale<br>Gangrene<br>Ulcus acutum vulvae<br>Elephantiasis vulvae |
| Chancre of urinary meatus | Erosive meatus |
| Chancre of clitoris | Tuberculosus lesions<br>Malignancies |
| Chancre of vagina | Chancroid<br>Carcinoma<br>Ulcers<br>Fistulae<br>Aphthae<br>Cysts<br>Gumma<br>Colpocele |
| Chancre of cervix | Polyps<br>Ulcers<br>Pregnancy<br>Epithelioma |

*Extragenital chancres*—8 to 10 per cent of the primary lesions are extragenital and present a real diagnostic problem.

| MORPHOLOGY | DIFFERENTIAL DIAGNOSIS |
|---|---|
| Chancre of lip | Epithelioma, gumma<br>Aphthae, herpes simplex<br>Chilitis, pseudochancre redux<br>Tuberculosis, sarcoid, pyogenic granuloma<br>Chancroid, sporotrichosis, anthrax<br>Blastomycosis, hemangioma |
| Chancre of finger | Tuberculosis<br>Mycotic infection<br>Sarcoma epithelioma |
| Chancre of nipple | Epithelioma<br>Seborrheic dermatitis<br>Fungus infection<br>Tuberculosis<br>Paget's disease<br>Fissures<br>Traumatic excoriation |
| Chancre of gums | Gingivitis<br>Abscess<br>Vincent's infection |
| Chancre of tonsils | Diphtheria<br>Vincent's angina<br>Carcinoma<br>Lymphosarcoma |

| | |
|---|---|
| Chancre of eyelid | Herpes facialis |
| | Erysipelas |
| | Phthiriasis |
| | Tuberculosis |
| | Epithelioma |
| Chancre of tongue | Secondary syphilis |
| | Gummata |
| | Geographic tongue |
| | Mycotic infection |
| Chancre of anus and rectum | Carcinoma |
| | Tuberculous lesions |

DIAGNOSIS OF PRIMARY SYPHILIS

The diagnosis in this early stage is most necessary if the highest percentage of cures is to be obtained. The diagnosis resolves itself into clinical and laboratory procedures.

CLINICAL DIAGNOSIS

The clinical characteristics are misleading and should be guarded. The stigma of syphilis should not be placed on an individual until definite proof is obtained. Every venereal lesion should arouse suspicion but do not go off on a tangent and diagnose syphilis unjustly. All lesions showing induration, slow healing and an associated satellite adenopathy, even though the lesions are extragenital, require differentiation from primary syphilis. The laboratory aids at our disposal today make the differential diagnosis easy in most cases.

LABORATORY DIAGNOSES OF PRIMARY SYPHILIS

The dark field examination is the best aid as the spirochetes usually abound in untreated, moist, primary lesions at least a week to ten days before the blood Wassermann test becomes positive. Any mild antiseptic destroys the spirochetes in local lesions, so no treatment other than warm saline compresses should be used until the diagnosis is made. There should be a law prohibiting druggists from prescribing ointment and solutions for use on genital lesions that have not been diagnosed.

A local Wassermann taken from the serum of the chancre or the aspirated bubo is of distinct aid in early cases. Later the blood Wassermann is an adjunct to diagnosis but serologic follow-up should be done in questionable cases. Staining methods both silver and India ink technics are diagnostic when smears are made from the exudate as well as from biopsied material taken from the chancre.

TREATMENT OF PRIMARY STAGE

Treat to cure in this phase of syphilitic infections and start promptly, but use small doses of arsenicals at the onset or even an intramuscular heavy metal such as bismuth first to prevent local Herxheimer reactions. The hope of cure in the primary stage when treatment is adequate and proper exceeds 95 per cent, discounting the occurrence of reactions due to intolerance or idiosyncrasy.

SECONDARY SYPHILIDS

The secondary cutaneous stage of syphilis appears usually about three to ten weeks after the appearance of the primary lesion (chancre). I like to think of this stage as a cutaneous manifestation of an effort on the part of the human economy to rid itself of these myriads of spirochetes which are infesting the blood stream. The best way to eliminate these organisms is through the skin which is one of the really important excretory organs or systems. Conditions analogous to this effort on the part of the host are found in certain infectious diseases characterized by bacteriemia and septicemia accompanied by cutaneous eruptions; such examples are the petechiae of meningococci meningitis, the rose spots of typhoid fever and some of the acute exanthema such as measles, scarlet fever, and variola. When these spirochetes which infest the blood stream in the "spirochetemic" or secondary stage of syphilis are thrown into the peripheral circulation they are deposited in the skin as localized secondary lesions. If they are deposited in a moist, intertrigenous area where the top or surface of the skin is eroded then they are very infectious; examples of such moist lesions are condylomata lata, mucous patches and eroded papules. They usually occur at mucocutaneous junctions in mucous membranes or in intertrigeonus areas such as the groin, the perianal area, under pendulous breasts, between the toes or in the axillae. The secondary lesions if uneroded are relatively noninfectious, but caution must be taken with these cases as unseen lesions of the pharynx and mucous membranes are usually asosciated with the cutaneous eruption.

The secondary syphilids have certain characteristics which made possible their diagnosis prior to the contribution of Wassermann and Hati in 1909 of the modification of the Bordet-Gengou complement fixation reaction which we know today as the Wassermann test. This test is dependent upon the production of "reagen" in the blood produced by living spirochetes pallida; consequently it is practically always positive in this spirochetemic stage, the so-called secondary stage when the blood stream literally teems with the causative spirochetes.

The clinical characteristics of these bizarre secondary syphilids will be outlined shortly, but it is important to know that these eruptions occur at various times during this blood infested stage. Some of these secondary eruptions occur relatively late in the disease, while others appear early in some cases while the chancre is still present; consequently it is necessary to divide the morphologic classification of these secondary syphilids into early and late secondary eruptions. There is no distinct line of differentiation between the late secondary stage and the early tertiary manifestations on the skin, but from a clinical and therapeutic standpoint this is of very little importance, as the treatment of both stages is similar.

Because of the polymorphous and bizarre character of the secondary eruptions of syphilis, George Henry Fox[1] in 1913, submitted a classification of these secondary manifestations on the skin. His classification was adopted by the American Dermatological Association at its Thirty-eighth Annual Meeting held in May, 1914. The following classification of these secondary acquired syphilids is a modification of Fox's excellent presentation.

EARLY SECONDARY SYPHILIDS

| | |
|---|---|
| Macular | Pseudovesicular |
| Follicular | Psoriasiform |
| Small papular | Corymbiform |
| Lichenoid | |

LATE SECONDARY SYPHILIDS

| | |
|---|---|
| Mucous patches | Rupial |
| Large papular | Frambesiform |
| Annular | Alopecias |
| Condylomata lata | Pigmentary |
| Pustular | |

CLASSIFICATION OF SECONDARY SYPHILIDS

| MORPHOLOGY | DIFFERENTIAL DIAGNOSIS |
|---|---|
| Macular and maculopapular | Seborrheic dermatitis |
| | Tenia versicolor |
| | Pityriasis rosea |
| | Maculoanesthetic leprosy |
| | Measles |
| | Typhoid fever (rose spots) |
| | Toxic dermatitis |
| | Dermatitis medicamentosa (drug rash) |
| | Erythema multiforme |
| Papular | Psoriasis |
| | Pityriasis rosea (papular form) |
| | Keratosis |
| | Variola |
| | Pityriasis lichenoides chronica |
| | Lichen planus |
| | Papulonecrotic tuberculid |
| | Urticaria pigmentosa |
| | Nodular leprosy |
| | Mycosis fungoides |
| | Erythema multiforme |
| | Adenoma sebaceum |
| Mucous patches (buccal) | Erythema multiforme |
| | Pemphigus |
| | Aphthae |
| | Periadenitis mucosae |
| | Lichen planus |
| | Glossitis |
| | Stomatitis (heavy metal) |
| | Herpes |
| Mucous patches (genital) | Herpes progenitalis |
| | Lichen planus |
| | Aphthae |
| | Pyodermia |
| | Parasitic infestation (scabies) |
| | Verruca vulgaris |
| | Ulcus acutum vulvae |
| | Tuberculous fissures |
| | Trichophytosis |
| | Seborrheic dermatitis (annular type) |
| | Impetigo contagiosa |

| | |
|---|---|
| Annulo-papular | Lichen planus |
| | Pityriasis rosea |
| | Erythema multiforme |
| | Granuloma annulare |
| | Chronic urticaria |
| | Psoriasis |
| Pustular and rupial | Variola |
| | Pyodermia |
| | Acne scrofulosorum (cachecticorum) |
| | Ecthyma |
| | Acne necrotica |
| | Papulonecrotic tuberculids |
| | Acne varioliformis |
| | Dermatitis medicamentosa |
| | Psoriasis |
| | Tenial dermatitis (corporus) |
| Alopecias | Alopecia areata |
| | Tenial dermatitis (tensurans) |
| | Lupus erythematosus |
| | Factitial alopecias |
| | Pediculosis capitis |
| | Leprosy |
| | Favus |
| | Seborrheic alopecia |
| | Alopecia associated with glandular diseases and blood dyscrasia |
| | Alopecia cicatrisata |
| | Morphea |
| Condylomata (eroded papules) | Verruca vulgaris |
| | Lymphogranuloma inguinale |
| | Granuloma inguinale |
| | Intertrigenous dermatitis (mycotic) |
| | Lichen planus |
| | Pyodermia |
| | Aphthae |
| | Pemphigus |
| | Dermatitis medicamentosa |
| | Epithelioma tuberculosis |
| Pigmentary | Vitiligo |
| | Dermatitis medicamentosa |
| | Saprophytic mycotic infection |
| | Xeroderma pigmentosum |
| | Erythema ab igne |
| | Factitial dermatitis |
| | Leprosy |
| | Chloasma |
| | Residual inflammatory dermatosis |

There is much diversity of opinion concerning the grouping and classification of these syphilitic eruptions but the above outline represents a fairly inclusive list. Many of these eruptive stages are rare today but occasionally one crops up in a large clinic where great numbers of negro patients are seen. Some of the most bizarre syphilitic lesions are encountered in negro patients.

The diagnosis of secondary syphilids, like the primary lesions, is a problem embracing clinical and laboratory acumen. In this secondary stage the Wassermann is nearly always positive and the lesions comprising the eruption have certain landmarks which are diagnostic. All types of syphilitic eruptions in this stage are due to deposits of the causative spirochete in the skin with the exception of the macular or roseolar stage which is considered by many not to be a true syphilitic eruption but rather a protein eruption due to the massive amount of protein in the blood stream made possible by the spirochetes in the blood stream.

### CLINICAL DIAGNOSTIC CRITERIA

During this stage there is frequently some degree of systemic response to the spirochetemia or mildly toxic condition made manifest clinically by malaise, sore throat, myositis and a general low grade septic picture occasionally. These symptoms are accentuated and present a picture of marked sepsis. There is generalized adenopathy at this stage. The eruption except the macular type which has already been mentioned is of a universal distribution with a symmetrical involvement. The face, especially the forehead, is usually involved. The individual lesions are indurated and have a subdued red appearance. The color is not a bright red one as seen in certain inflammatory conditions such as psoriasis, as the blood supply in the individual syphilids is not as marked as in certain of the acute inflammations. This subdued red ap-

pearance has been described by some as a "raw ham color" which to most of us is a quite variable term. There is usually no itching associated with the eruption, but here too we are dealing with a personal factor as the scratch impulse is not constant in any two persons. Generally speaking, however, the only type of secondary syphilid in which itching is commonly associated is the follicular or pseudovesicular variety. The eruptions appear gradually and the hyperpigmentation which frequently accompanies the rash is not permanent. True vesiculation in the acquired secondary stage is indeed rare and many good syphilologists doubt that vesicle formation ever occurs in this class of eruption.

The infectiousness of the eruptions depends upon the duration or age of the rash, and chiefly whether the lesions occur in moist intertrigenous areas and have eroded surfaces thus permitting the spirochetes to be accessible on surface contact. The individual lesions comprising a secondary syphilitic eruption may be likened unto cutaneous chancres—each is a potential source of infection if their surfaces become eroded and moist. Syphilitic involvement of the hair bulb causes a choking off of the blood supply to the root of some follicle and subsequent alopecia. This loss of hair is patchy and has a "moth eaten" appearance. The alopecia of syphilitic origin when occurring in the secondary stage of the disease is not permanent. The hair bulb will again begin to function as soon as the localized collections of spirochetes are destroyed, either by therapeutic intervention or by development of local tissue immunity.

The last two factors enter into the picture of every secondary eruption of syphilis as the rash will fade in time even without treatment. The residual pigmentary changes will likewise disappear in the course of several months. Except in the macular or roseolar type of eruption there may appear any accentuation of the skin lesions after the initial injection of an arsenical drug. This is known as a cutaneous Herxheimer and is evidence of the action of the drug on the localized collections of spirochetes in the skin which in the macular stage are not present as the roseolar is a protein, cutaneous manifestation, and not a classical syphilid.

### LABORATORY DIAGNOSTIC AIDS

During this secondary stage the blood Wassermann is usually positive for reasons already given. It is safe to say that the complement fixation phenomenon is over 98 per cent positive under proper laboratory technics. A biopsy of skin lesions will show the presence of a specific granuloma of syphilitic origin and with proper silver impregnation staining as devised by Levaditti or some modification of same, the causative organisms can be detected in all varieties of secondary lesions, except the macular type. Time will not permit a discussion of the histologic picture, but it will suffice to say that is fairly characteristic. Other types of specific granulomata have to be ruled out, such as tuberculosis cutis, deep mycotic infections, or leprosy, but each has some classical features which are peculiar to the respective disease.

### TREATMENT

In this early acute stage of the disease treatment is directed toward cure just as in the primary stage. Treat vigorously and if possible, use some form of intravenous arsenical injections, as arsenic has its highest value during the vascular stage of the disease. Arsenic has a very high spirocheticidal index but a low penetrating one and must be used to its fullest extent before the organisms become imbedded in the viscera. The two outstanding considerations in the treatment of a syphilitic eruption are first, the age of the patient and secondly, the age of the disease itself. The first factor determines the index of probable tolerance and the second indicates the type of drugs to be used and in what manner. Let me again emphasize the point that in early syphilis we treat to cure—believe this yourself and educate your patients to share your optimism.

### LATENT OR ASYMPTOMATIC STAGE

This is the stage of syphilis that exists from the time all secondary manifestations disappear until the tertiary symptoms (cutaneous or visceral) become evident. The duration of this stage may vary from several months to many years. It is during this stage that the Wassermann reaction is indispensable for often no other indication of a syphilitic infection exists either visceral or cutaneous, and a positive

serologic test rechecked gives a diagnosis which often can be confirmed by thorough physical check up, supplemented by roentgen ray and fluoroscopic examinations.

Since cutaneous eruptions are not a part of this asymptomatic stage we must not tarry too long on this most important phase, but must hasten to discuss the tertiary eruptions.

### TERTIARY SYPHILIDS

These cutaneous syphilitic eruptions are late manifestations of syphilis and are usually associated with visceral or systemic syphilitic stigmata. The most common tertiary lesions are the gumma and the nodular lesions, but other varieties of this group are included in the following classification.

CLASSIFICATION OF TERTIARY SYPHILIDS

| MORPHOLOGY | DIFFERENTIAL DIAGNOSIS |
|---|---|
| Nodular and ulcerative | Tuberculosis verrucosa cutis |
| | Blastomycosis |
| | Sporotrichosis |
| | Bromoderma |
| | Epithelioma |
| | Von Recklinghausen's disease |
| | Leprosy |
| | Lichen planus (verrucosus) |
| | Lupus vulgaris erythematoides |
| | Papulonecrotic tuberculid |
| | Keloids |
| | Granuloma inguinale |
| | Lymphogranuloma inguinale |
| | Dermatitis papillaris capillitii |
| | Erythema induratum |
| | Endothelioma |
| | Actinomycosis |
| | Hodgkin's disease |
| | Fibrosarcoma |
| | Rhinosphyma |
| | Ecthyma |
| | Mycosis fungoides (mycotic stage) |
| | Rhinoscleroma |
| Gummatous | Erythema induratum |
| | Verruca necrogenica (post-mortem wart) |
| | Lupus vulgaris |
| | Papulonecrotic tuberculid (folliclis) |
| | Factitial dermatitis |
| | Sporotrichosis |
| | Scrofuloderma |
| | Sickle cell anemia (ulcer) |
| | Stasis ulcer |
| | Marjolin's ulcer |
| | Anthrax |
| | Phagedenic ulcer |
| Psoriasiform and rupial | Psoriasis |
| | Seborrheic dermatitis |
| | Yaws |
| | Dermatitis medicamentosa |
| Squamous | Trichophytosis |
| | Lupus erythematosus |
| | Sarcoid (Boeck type) |
| | Rosacea |
| | Seborrheic dermatitis |
| | Dermatitis repens |
| Late lesions of mucous membranes | Leukoplakia (non-specific) |
| | Glossitis (factitial) |
| | Lichen planus |
| | Periadenitis mucosae necrotica |
| | Tuberculosis |
| | Geographic tongue |
| | Mycotic infection |
| | Tuberculosis cutis orificialis |
| Nails | Diseases showing changes in the nails comparable to syphilitic onychia are: tuberculosis, psoriasis, paronychia (non-specific) |
| | Blood dyscrasias (leukemia) |
| | Mycotic disease |
| Residual scarring | Tuberculosis scars |
| | Lupus vulgaris |
| | Tuberculosis colliquativa |
| | Erythema induratum |
| | Stasis ulcers |
| | Factitial lesions |
| | Deep mycotic infections: sporotrichosis, actinomycosis, blastomycosis |

| | |
|---|---|
| Pigmentary changes | Dermatitis medicamentosa |
| | Lupus vulgaria |
| | Tuberculosis verrucosa cutis |
| | Urticaria pigmentosa |
| | Lupus erythematosus |
| | Scrofuloderma |
| | Stasis ulcers |
| | Deep and superficial mycotic infections |
| | Factitial dermatitis |
| | Dermatitis herpetiformis |

This stage of cutaneous syphilis is relatively non-infectious and only in the lesions involving the mucous membranes or occurring at the mucocutaneous junctions where warmth and moisture are available, are the spirochetes recovered from the lesions in the active stage that would give a positive dark field examination.

The differential diagnosis of these lesions is quite an interesting one, and since we have come to depend on the Wassermann report for our diagnosis of syphilis too much, we often are deceived in this stage of syphilis and not over an 80 per cent positive index may be expected during this tertiary phase. The old clinicians in the pre-Wassermann days had to know the clinical characteristics of the lesions in order to diagnose them. Fournier was the first to observe that all nodular tertiary syphilids tend to group themselves into circular arrangement or segments of circles. This feature still holds and is of great aid in clinical differentiation.

CLINICAL DIAGNOSTIC AIDS

The tertiary syphilids are destructive. They are usually asymmetrical. Induration is again the picture presented by each lesion. The gummatous type is usually singular but the nodular variety are multiple and bilateral with formation of circles or segments of circles. The lesions are very indolent and the number is less numerous than in "secondaries". The lesions tend to heal centrally and spread peripherally and there is usually marked hyperpigmentation at the borders. This increase in pigment persists much longer than does the residual hyperpigmentation of secondary syphilids, in fact, the residuary pigment deposit is permanent following chronic ulcers of syphilitic origin in some individuals.

Unlike the secondary lesions these tertiary lesions tend to heal with scar formation. The scarring of syphilitic ulceration is quite classical and although all specific granulomata heal with scar formation the residual cicatrication of late syphilids is diagnostic.

LABORATORY DIAGNOSTIC AIDS

As previously stated, the blood Wassermann report is not infallible in this stage and an 80 per cent aid in diagnosis from this source is all we can hope for. This discrepancy in the blood Wassermann report can be in part overcome by the provocative Wassermann. The provocation of the Wassermann test is keenly questioned by some syphilologists but I find it a helpful diagnostic adjunct. I have discussed the value of the dark field in the tertiary syphilids and repeat only for emphasis that it is uniformly negative except in lesions involving moist areas such as those of the mucous membranes or of the mucocutaneous junctions.

In no stage of syphilis is the biopsy and histologic study of skin sections as indispensable as in tertiary lesions. The histopathologic picture offers the best differential diagnostic aid, while the cellular components of all syphilitic lesions from the chancre to the ulcerative gumma are practically the same, the degree or prominence of the various cellular elements and biproducts of some vary markedly. The microscopic picture of a specific granulomatous lesion of syphilitic origin, while not always classical, is diagnosable when examined by a histopathologist acquainted with the disease.

Often the blood Wassermann may be reported negative and a spinal survey will give the diagnosis, so it is wise to check the spinal fluid in late syphilis not only as an aid to initial diagnosis but to determine the presence of central nervous system involvement, especially parenchymatous changes. When all serologic tests are negative or not available and a biopsy is not practical the "therapeutic test" may be resorted to. This therapeutic test means just what the term indicates, namely that specific antisyphilitic therapy of a type suited to the case is instituted, and not infrequently the response of the cutaneous syphilids is phenomenal. The lesions resolve like magic in some in-

stances, but the diagnosis cannot definitely be established as the non-specific effect of drugs used in treating this disease, both arsenicals and heavy metals, as well as the iodides and pyretotherapy, is striking.

Before starting treatment at this stage of the disease, more than in any other, a complete evaluation of the condition of the patient must be made. An equation of the condition of the patient in relation to the progress or age of the disease will give an answer as to how vigorously the patient should be treated. Do not, if avoidable, experience a therapeutic paradox wherein we treat so extensively as to cure the disease, but kill the patient by oversaturating an already weakened body. We cannot always hope for cure in this stage, but the disease can be arrested in most cases and prevent further inroads of the devastating infection.

We can prevent late visceral and central nervous system sequelae which may render the unfortunate victims public charges. Since the disease is chiefly an embedded visceral disease at this stage, drugs such as heavy metals and iodides with penetrating properties are indicated; especially arsenicals have their place in this stage also, but possibly secondary to the heavy metals. In this stage treat to tolerance, but conservatively when needed. In advanced cass with irreparable systemic damage treat to arrest, not to cure, lest we overdo the effort.

SUMMARY

This meager dicussion is presented with a thorough realization that many important points and diagnostic aids have been omitted. Some of these omissions were intentional due to the short time allotted, but other omissions were unintentional and due to the total ignorance of same on the part of the essayist, for no one person knows syphilis in its entirety. Osler's remark concerning the broadness of scope which syphilitic knowledge embraces is made more clear to one who attempts to present a general paper on such a large phase of the disease.

## THE PUBLIC HEALTH ASPECTS OF SYPHILIS

JOHN A. TRAUTMAN, M. D.

NEW ORLEANS

Syphilis as it affects public health is a matter of grave concern to the entire nation and to the world. It offers to the medical profession a problem, the seriousness of which has been recognized for many years. Fournier[1], in 1887, outlined the consequences of the disease as follows: "(1) Eventual incapacity to do work; (2) public expense for maintenance of public institutions to care for these people; (3) permanent incapacity; (4) spread of infection; (5) relation to marriage; (6) introduction of syphilis into the family circle; separation, divorce, and other associated evils; (7) contamination by wet nurse; (8) sterile marriages; (9) congenital syphilis; (10) mental."

Fundamentally these consequences as outlined by Fournier, were essentially the same as they are today.

J. Marion Sims[2], in his presidential address before the American Medical Association in 1876, looked upon the subject of syphilis as the great question of the day. I wish to quote a few of his statements to illustrate to you how well the question of syphilis was evaluated at that time.

(1) "It (syphilis), is one of public health, and as such we are bound to meet it.

(2) "The time has come when we can no longer shut our eyes to its evil, and we must deal with it precisely as we deal with other evils that affect the health of the people. It is our duty to enlighten the public upon all questions of public health.

(3) "Now what I propose in regard to syphilis is simply to give to the existing boards of health, in the various cities, the same powers over syphilis that they now possess over cholera, smallpox and yellow fever.

(4) "Thus you see that I would simply include syphilis in the great family of contagious or communicable diseases, and make it subject to the same laws and regulations that we already possess for their management."

And, finally, Sims urged that people be advised of the dangers of the disease, and that the medical profession call on the press, the pulpit, the women of the country, and the state and county medical societies for cooperation.

Thomas Parran[2], Surgeon General of the United States Public Health Service, quoted at length from Sims' address in his paper, "Control of Syphilis," which was presented before the meeting of the American Medical Association in June of this year. Parran brought to our attention in this paper the fact that it was 41 years before the profession and our governmental agencies heeded the advice of Sims and then only as a war time measure.

Now again, after several years, we are engaged in a great and well organized campaign which promises to make progress against the plague that has persisted despite the fact that we know the causative agent, how the disease is spread, how it may be prevented, how it may be treated, the end results of treated and untreated cases, and effect of the disease on the health and happiness of the nation. In the history of this country no other serious, disabling and fatal disease has withstood the attack of the medical profession, where we had as much information as we have concerning syphilis. I do not wish to imply that satisfactory and adequate management of cases from all angles has not been in force. On the contrary, excellent treatment has been carried out by many of the medical profession, and it is a tribute to their efficiency, that we have at hand the present knowledge of the disease. Many others, however, for various reasons have been unable to supply adequate diagnosis and treatment for their patients.

The competition by quacks and drugstores has prevented many patients from coming to the physician for treatment at a time when better results could be obtained. The fear of spinal puncture and repeated use of needles for injection has driven some patients from treatment. Some patients, because of lack of general public instructions, are under the impression that when a physician recommends the continuous treatment over a long period of time, he is merely making certain that he receives a weekly contribution. Such a patient not infrequently discontinues treatment from this competent practitioner but promptly gets into the hands of someone who guarantees a cure on a few injections of some drug. I fear that the man who has offered quick cures has profited much financially but has eventually placed great burdens on the profession, city and state.

### THE EXTENT OF SYPHILIS

May I, at this point, review for you a few of the problems and data that syphilis has brought to our attention again and again: (1) Syphilis strikes one person out of ten; (2) 500,000 new cases of syphilis seek medical attention each year; (3) if a search is made for syphilis one hidden case is found for each one previously recognized; (4) it is estimated that 60,000 children are born each year with congenital syphilis; (5) 10 to 12 per cent of all deaths from heart disease are caused by syphilis; (6) the life expectancy is decreased on an average of 22 years in each case of cardiovascular syphilis; (7) 10 per cent of the admissions to state mental hospitals are for dementia paralytica; (8) in cases of syphilis untreated, or poorly treated, 30 per cent show spinal fluid changes, and 19 per cent have clinical symptoms of central nervous system syphilis; (9) 80 per cent of the cases of acquired syphilis may be cured during the first year of the infection; (10) only 30 per cent may be cured if treatment is started 3 to 20 years after infection; (11) syphilis is found in all walks of life; it is present in the isolated country home, village, town and city.

### THE ILL EFFECTS OF SYPHILIS

I shall not attempt to go into any further details because we, as members of the medical profesion, are fully aware of the ravages of this disease. We see the cases almost daily and know the problem before us. We know only too well the effects and bitterness resulting from syphilis, particularly as it concerns the family and community. Some of these results might be mentioned briefly at this time as follows:

(1) The treatment is always prolonged and considerable expense is involved over this long period of time despite the fact that usually the

physician treats the patient at a very low cost. Then there is loss of time from work which varies considerably depending on whether or not treatment is readily available.

(2) To the physician there is a tremendous amount of time spent in treating cases for which he receives no remuneration and in addition he frequently purchases the drugs and stands all expense. This the physician has done without complaint. He has shouldered this burden which at times is too much to carry. In the larger cities, the indigent patients have been treated to some extent in clinics, but despite the clinics, much free treatment is carried on in the physician's private office.

(3) When the head of the family is disabled with cardiovascular syphilis, dementia paralytica and other serious complications, hardship to the family results. The family eventually becomes dependent on charity for food and shelter, and the patient himself requires hospitalization and prolonged treatment at public expense. The breaking up of the home, resulting in divorce, separation, improper care and guidance of the unfortunate children in the family, all with their inevitable end results, are of more significance to society than the cost in money. We can arrive at some estimate in any community as to the cost of treatment and all activities associated with the management of syphilis control, but we have not estimated the damage resulting to family life by such catastrophies.

(4) To the city therefore as well as the state and nation, there is a tremendous cost for hospital care alone, and for the upkeep of families of patients hospitalized. To this may be added the cost of maintaining clinics and additional funds for venereal disease control.

(5) Industry suffers unestimated losses due to accidents resulting primarily to untreated cases of syphilis. To add to the loss of a valuable employee there comes the question of compensation. In many cases, the defect due to syphilis may have been a factor in causing the accident. Serious errors and decisions by executives, who are not aware that central nervous system syphilis is destroying their judgment and ability to think clearly, may result in losses to industry.

(6) Since these conditions may be present in any walk of life we may expect the possibility of harm and loss to any organization employing an untreated case of syphilis. We see no harm in employment of a patient who is under adequate treatment and remains under periodic observation by his physician.

I might continue to give numerous illustrations of this type, but regardless of how much we may talk of these things, we eventually get back to the question—"What are we going to do to stamp out syphilis?"

The discussion of the question is one of great moment and requires much time. I can only give a brief outline here so you will have to be patient with me if I fail to mention many important points.

### PROGRAM FOR CONTROL OF SYPHILIS

Parran[2] has outlined the basic principles which may be applied in a general way, and I shall give them to you briefly as follows: (1) In each city and state there should be a trained public health staff to deal with the problem of syphilis; (2) the reporting of cases, follow up of delinquent patients and the finding of contacts should be required by state laws; (3) health examinations, including serologic tests should be required before marriage; (4) diagnostic services should be available to every physician and should meet minimum state standards of performance; (5) treatment facilities should be available to all and should be of good quality; (6) in the cities, clinic service is a necessity and is best when associated with an already existing hospital dispensary. When hospitalization is necessary, beds should be available; (7) drugs for treatment of syphilis should be readily available to all physicians. These drugs are best distributed by the state; (8) serodiagnostic tests should become a routine procedure for every complete physical examination, for every hospital admission and most certainly for every pregnancy. The program of instruction for health officers and physicians should be carried out by utilizing trained consultants; (9) instruction of the public by every available method should be employed continuously and intensively; (10) having these work-

ing principles before us, we must then apply the program to meet the local needs.

It is obvious that there are many obstacles in the path of fulfilling this or any program but many of these obstacles can be pushed aside if the program is worked out with sustained determination, courage and effort. Some people are too willing to give up before starting on a program of this nature, but these are decidedly in the minority. The National Conference on Venereal Disease Control held in Washington, D. C., in December 1936, was a remarkable meeting because it demonstrated more clearly than ever the determination with which the program of venereal disease control is to proceed.

There must be a continuous program as for other health measures. Venereal disease control has always suffered because of lack of funds. If the public is properly advised, and the representatives of the people in the various units of government are properly advised, the time is not far off when adequate money will be forthcoming for venereal disease control work. Many of our states and cities have had regulations for this purpose of venereal disease control, but usually the lack of funds did not permit a sustained campaign. Times have changed, however, and steady progress is being made in many states and cities in the program of control of syphilis and other venereal diseases.

## EDUCATION OF THE PUBLIC

The education of the public in all phases of the work is a most important factor. The information should be disseminated through the press, radio, movies, pamphlets, posters, and talks to laymen by doctors. Information given should be of such nature as to be readily understood by the layman, and should give him a common sense understanding of the whole subject. We must teach the public to avoid the quack who guarantees a quick cure, and the drug clerk who wants to treat them. Above all, they should be advised not to use self-treatment. We must teach them the necessity of early and prolonged treatment so that they may avoid the man who advises improper treatment. Parents should be advised to be more tolerant with the young son or daughter who has been so unfortunate as to contract syphilis. These children need a parent's love and care and should not be "kicked out" of the home, as so many have been. This boy or girl may lead a good life if properly cared for, but if not, he or she may become another reservoir of disease. The same applies to the employee. If an employee contracts syphilis, I hope that the employer will have mercy and allow the man to return to work as soon as the early period of infectiousness has passed. This man will most often be a better employee for the kindness shown him, and it will give him courage to face the future. We will find that this man can pay for his treatment and he will seek adequate treatment. If he is discharged we do not know what will become of him. It may change his entire view on life and make him a burden to the city and state.

Education of the public will bring more early cases of syphilis to you for treatment as well as bring to you the patient who had forgotten the infection he had many years ago. Education of the syphilitic patient can best be carried out in the physician's office and is most important as far as the continuance of treatment is concerned. I think the most important things, in managing a patient with syphilis, are encouragement, kindness, understanding and gentleness in treatment. A little extra time spent along these lines will pay great dividends in good results.

## SUMMARY

I wish to stress that syphilis control is best approached through state and local health departments, cooperating with the voluntary agencies and the physicians in private practice. To be successful there must be an understanding by the physicians of all phases of syphilis. There shall be reporting of all cases to the health department, adequate diagnostic and treatment facilities, careful explanation and advice to the patient, follow-up work, determination of source of infection and examination of contacts, education of the public, more time spent on study of syphilis in medical schools and lastly, there must be adequate funds for maintenance of a syphilis control or venereal disease control unit in the health departments.

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# PRESACRAL SYMPATHECTOMY*

CONRAD G. COLLINS, M. D.†

NEW ORLEANS

Since Gaston Cotte,[1] in 1925, introduced the operation of resection of the superior hypogastric plexus for dysmenorrhea, a wave of enthusiasm has arisen, both on the continent and in the United States, for this procedure. Its scope in recent years has been broadened to include cases of pelvic pain due to metastases of carcinoma of the uterus, to ulceration of the bladder, to bladder or rectal spasm, to vaginismus; and it has even been used in patients in whom there has been a persistence of pain despite corrected pelvic pathology.

## ANATOMY

The presacral nerve is that segment of the abdominal sympathetic system which extends from the bifurcation of the aorta to the sacral promontory. As this area is prelumbar and not presacral, and since usually a plexus and not a nerve is encountered, the term superior hypogastric plexus, rather than presacral nerve, is more appropriate. The plexus is formed by the union of three roots: two lateral roots originating from the first and second lumbar ganglia on each side, and a middle root which is a continuation of the intermesenteric plexus. Thus formed, the nerve is joined by fibers from the third and fourth lumbar ganglia on each side, and after crossing the promontory of the sacrum, divides into the right and left branches. These nerves course along the posterior pelvic wall, supplying branches to the uterus and enter the lateral rectal space, terminating in the inferior mesenteric ganglia. Here, they are joined by the parasympathetics through the pelvic nerves (nervi erigentes) which are branches of the second, third, and fourth sacral nerves (Keene).[2]

Perhaps the best description of the superior hypogastric plexus, or so-called presacral nerve, is found in the work of Elaut.[3] His description is based upon fifty cadaveric dissections and cross sections, and all recent surgical descriptions are founded upon this work. Elaut, in his fifty dissections, found a distinct nerve in 24 per cent of his cases, parallel fibers in 16 per cent, a typical plexus in 58 per cent, and an arch-shaped plexus in 2 per cent.

The nerve is best located in the interiliac trigone. The base of this trigone is formed by a line joining both common iliac arteries at the level of the sacral promontory; its sides are formed by the common iliac arteries and its apex by the bifurcation of the aorta. It occupies the level of the lower portions of the fourth lumbar vertebra, the last intervertebral disc, and the body of the fifth lumbar vertebra. The base is approximately 7 cm. long, and the height of the triangle is roughly 6 cm. It may vary in accordance with the variance in the bifurcation of the aorta. A large part of the left half of this trigone is occupied by the left common iliac vein, which structure can be easily injured, especially if the sigmoid is attached further medially than normal, and if its mesentery contains much fat. The triangle is bisected by the middle sacral artery.

## PHYSIOLOGY

A review of the physiology of the pelvic sympathetic and parasympathetic nerves shows diversity of opinion among investigators, but a crystallization of their thought leads to the following conception, namely, that the sympathetic fibers are vasoconstrictors of the blood vessels of the internal pelvic organs and that the parasympathetics have a reverse effect. The sympathetics have to do with the contractile fibers of the cervix and with inhibition of uterine muscle, whereas, the parasympathetics cause an emptying or detrusor action by stimulating the emptying mechanism of the uterus and relaxing the sphincteric action of the cervix. The sympathetic fibers to the bladder cause contraction of the internal sphincter and inhibit the emptying action of the bladder. Conversely, the parasympathetic fibers cause contraction of the muscles of the bladder and a relaxation of the internal sphincter. This is aptly explained by Flothow,[4] "If we cut the sympathetics, we relax the sphincter and give what detrusor action we have left full play." It is a moot question as to whether the sympathetics carry pain fibers.

†From the Department of Gynecology, Tulane University.

*Presented at the scientific meeting of the New Orleans Dispensary for Women and Children, March, 1938.

The ovaries do not receive any fibers from the superior hypogastric plexus, but obtain their sympathetic supply from fibers originating in the renal plexus and following the course of the ovarian arteries. Therefore, any operation performed upon the superior hypogastric plexus would have no effect upon the ovary, or upon symptoms arising from the ovary. Flothow injects the superior hypogastric plexus in some cases, and, in this manner, is able to determine whether an operation upon the superior hypogastric plexus will, or will not, produce relief of symptoms. His technic of injection is as follows.

FLOTHOW'S TECHNIC

A point 7 cm. out from the midline of the back, just above the brim of the pelvis, is taken. The needle is pointed downward just a little, inserted at an angle of 45°, and pushed downward until it hits the body of the vertebra. Then the angle is changed until the needle slides over the anterolateral border of the vertebra. At this point, the needle is advanced another centimeter, or a centimeter and a half, and at this time, will ride close to the superior hypogastric plexus. This is done on both sides. Ten to 15 c.c. of novocain are injected on each side and the whole area of the iliac trigone anesthetized. The patient should experience a warming of the feet, should the plexus be properly anesthetized. If, following injection, the feet get warmer and the patient experiences no relief, then it is not a case for operation. This means that the pain is either ovarian or psychogenic.

INDICATIONS

I have had no personal experience with the use of presacral sympathectomy for the relief of painful ulceration of the bladder, or for pelvic pain associated with bladder or rectal spasm, and can only state that cases reported in the literature show that this procedure is of great value in producing alleviation of symptoms in these types of pathology.

As regards pain due to pelvic malignancy, relief can be obtained if the metastasis is not too far spread laterally into the broad ligaments, and if ovarian involvement is minimal or nonexistent. Occasionally, metastatic involvement retroperitoneally in the prelumbar trigone makes resection impossible. Four or five years ago, I used this procedure, and witnessed its use by the late Dr. Jeff Miller, with good results. However, it was noted that after a period of a few months, as metastases became more pronounced, pain usually recurred. Of late, I have used alcoholic injection of the spinal canal for the control of pain due to carcinoma practically to the exclusion of presacral sympathectomy. It is simpler to perform, the morbidity and mortality are lower, and the degree of relief is more marked, which leads me to advocate the use of alcoholic injection rather than presacral resection in these types of cases. Occasionally, one will perform a laparotomy for the purpose of extirpating the uterus for carcinoma of the fundus, and find that the case is inoperable. Here, a presacral sympathectomy should be the procedure of choice, rather than a simple closure of the abdomen, as we know that pain will eventually appear.

Occasionally, gynecologists have used presacral sympathectomy where the pelvic pathology has been corrected, but the pain persisted. This is especially true in the young woman who has endometriosis where we are reluctant to remove both ovaries. Instead, the growths are destroyed by the actual cautery and a presacral sympathectomy performed. This latter procedure is used as a prophylactic measure against development of pain should the growths recur, and also, for the reason that marked dysmenorrhea is a prominent symptom in endometriosis. I have used this procedure in five patients, one four years ago, and they have been free of pain and dysmenorrhea since that time.

Presacral sympathectomy has been used most extensively in the treatment of primary dysmenorrhea, and I have no doubt that it has been employed too frequently for this condition. A survey of the literature shows that anywhere from 90 to 95 per cent of the patients were relieved of their dysmenorrhea by the use of presacral sympathectomy, a higher percentage of cures than by any other method. This, however, does not mean that it should be used to the exclusion of all other methods, or advised injudiciously. Primary dysmenorrhea may be due to one or a number of factors: poor hygiene, overwork, secondary anemia, endocrine imbalance, allergy, hypothyroidism, and stenosis of

the internal os either congenital or acquired. A complete study of a case of primary dysmenorrhea will usually reveal the etiologic factors and treatment should be directed towards its cause. Only after medication and/or hormonal therapy have been tried with little or no success, should surgery be advised for the cure of primary dysmenorrhea, and certainly, if surgery is advised, dilatation and insertion of a stem pessary should be the procedure of choice, as this method in itself gives 60 per cent of cures. I cannot be too emphatic in stating that only when these methods, alone or in combination, fail, should the more radical type of treatment, namely, presacral sympathectomy be advised.

Presacral sympathectomy carries a mortality and morbidity rate that far outdistances any of the other types of therapy known for primary dysmenorrhea. Cotte,[5] who has performed the operation over 300 times, has a mortality of 2 per cent. Other authors report a higher percentage, showing that the operation is not without danger. Some cases have persistence of pain following operation, and when re-operated have been found to have small neuromata of the proximal end of the nerve fibers. Aside from this, other morbidity factors and figures have not been reported, but I am sure that they exist. Technically, the operation is not difficult in thin women with little or no retroperitoneal fat. However, in the stout individual with a mesocolon that is both fat and abnormally placed near the medial line, there is great danger of injury to the ureter, common iliac artery, left common iliac vein, middle sacral artery, inferior mesenteric artery, and perhaps the aorta. Only three weeks ago, I injured the left common iliac artery and vein while performing a sympathectomy in a stout individual. The amount of hemorrhage was enormous and could only be controlled by ligation of the left common iliac artery and vein. The patient survived the operation, but amputation of the lower third of the left leg was necessary because of interference with circulation and gangrene.

Reported cases of pregnancy following presacral sympathectomy show that there is no interference with the normal progress of labor. Some authors claim that the first stage is relatively painless, but in the second stage, no difference is noted in the intensity or frequency of the pain as compared to patients who have not had sympathectomy.

CONCLUSIONS

1. Presacral sympathectomy has a very definite and very valuable place in our therapeutic armamentarium.
2. It is efficacious in the relief of pain due to bladder or rectal spasm.
3. It has a definite value in the treatment of pain due to carcinoma or endometriosis of the pelvic organs.
4. It is most efficacious in the treatment of primary dysmenorrhea, but should be used only when other types of therapy, such as medical measures, hormones, or dilatation and stem pessary, fail to alleviate the condition.

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## RECENT ADVANCES IN THE TREATMENT OF PNEUMONIA*

CHARLES L. ESHLEMAN, M. D.

NEW ORLEANS

Statistics reveal the appalling fact that pneumonia takes the lives of more than 100,000 people in this country each year. Until recently we have been forced to fight the disease with no reliable weapon or means of defense. Stimulation, efforts to control fever and cough and relieve pain and conserve strength have been our aim while anxiously awaiting the hoped-for crisis; in other words, depending on the patient's natural resistance to win the fight. A pneumococcal antitoxin serum was on the market for twenty-five or more years, but no consistently beneficial results followed its use and

*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938, at New Orleans.

some years ago it was practically abandoned.

However, since about 1931 a remarkable advance has been made in our knowledge regarding the pneumococcus, and with it has come the development of a new serum treatment which has materially reduced the mortality from this dreaded disease. Unfortunately emphasis was at first placed on the fact that the specific antiserum I refer to was chiefly, in fact almost exclusively, beneficial in lobar pneumonia. This attitude was largely because the pneumococcus was shown to be the causative organism in practically every case of lobar pneumonia, whereas bronchopneumonia was thought to be only rarely caused by the pneumococcus. Further bacteriologic studies, however, have revealed the fact that probably one half of the bronchopneumonias are likewise associated with the pneumococcus.

Let me therefore be most emphatic at this point. Pneumonia is pneumonia—whether lobar, broncho, pleuro, postoperative or what not, and far more important than any question as to the kind of pneumonia should be the study of its bacteriology, for on this alone depends the method of treatment and the question of whether or not specific antiserum is indicated. Early diagnosis of every pneumonia is of monumental importance and every pneumonia sputum, whether lobar or broncho demands an immediate bacteriologic study. If the pneumococcus is found, the next and immediate step is the determination of its type. At present about 32 types of pneumococci are known and referred to as type I, type II, and so on, up to type XXXII. Serum is beneficial in the treatment of pneumonia due to some types; it is of no use in others. Serum for one type is not applicable to pneumonia due to another type. This again reveals the necessity for typing all pneumococcal sputum.

### TYPING OF SPUTUM

Typing was formerly a difficult and prolonged laboratory procedure requiring injection of mice and several days' study; the result was valuable time lost. Now, thanks to the Neufeld technic, a rapid and, with a few exceptions, a comparatively easy method exists to determine the type of pneumococcus present in any pneumococcal pneumonia. Some physicians are equipped to examine sputum for types of pneumococcus in their office in conjunction with routine laboratory work. Having determined the type, the question of serum is for consideration. Beneficial results have been noted when homologous type specific sera have been injected in pneumonias due to pneumococci of Type I, II, V, VII, VIII and XIV.

Therefore, having discovered that the pneumonia is due to one of these types—the homologous antiserum should be administered at once. The subcutaneous and intramuscular routes have been abandoned and the intravenous route is essential. While intravenous injection is attended with slightly more risk, the danger is not great provided that certain precautions related to horse serum sensitivity have been previously taken. These consist of: first, careful inquiry regarding any history of hay fever or asthma, eczema or urticaria. That related to horse dander is especially significant; second, inquiry regarding any previous injection of horse serum at any time; thirdly, the performance of an eye test and intradermal skin test for sensitivity to horse serum. Patients having a history of hay fever, or asthma, or skin conditions due to horse dander should not be given serum. Patients showing a positive eye test or a strongly positive skin test should not be given serum. Those who have had horse serum injections during the preceding three months should not be injected.

### TECHNIC OF ADMINISTERING SERUM

If the patient is applicable for serum, the procedure may be carried out. Instructions regarding serum administration are furnished by the makers, and can well be carried out as given especially as to whether or not the serum is to be diluted. Ordinarily the unconcentrated serum should be diluted with an equal amount of normal saline solution. Concentrated serum can be given undiluted.

Injections are usually made in one of the veins of the arm. When possible, blood for a blood culture should be collected at the time serum is being given, as future dosage of serum may be governed by whether or nof a bacteriemia is present. The initial amount of

serum injected should be about 2 c.c., injected warm and very slowly, not faster than 1 c.c. per minute. Two hours later the balance of the first vial may be given and full doses thereafter every two to six hours. It is important that large enough doses be given at frequent intervals until a clinical improvement is noted. Two years ago when I treated early cases I was hesitant about administering serum at short intervals. I am now sure that it is the proper procedure. Of course the necessity for additional serum depends on the clinical response. In type I and II cases, which comprise the majority of cases amenable to serum therapy, the total average dosage is about 70,000 to 100,000 units usually divided into four to six doses. Normally it was thought that serum was not efficacious when administered after the third day of illness, and in Boston and New York, where serum is dispensed free by the health authorities to those unable to buy it, it was withheld from those ill longer than this period. Further observations indicated that serum has at times still been beneficial when administered later in the disease. However it is essential that the recognition of the disease and type of pneumococcus be made at the very earliest possible time as serum is more beneficial the earlier it is given. Patients treated by serum therapy later in the disease require larger doses. Where extensive lung involvement is present larger doses are usually necessary and where the blood cultures show a bacteriemia exists the dosage often should be as much as 300,000 or more units. Within eight to 24 hours after serum there should be improvement. Fall of temperature, pulse and respiration and lessening of toxemia are the important developments to look for.

Certain important precautions are necessary to observe in giving serum intravenously. The most important is that the injection be given very slowly and only a small amount given at the first injection. If any serum reaction occurs adrenalin, a filled hypodermic of which should always be ready for use, should be given immediately. In anticipation of possible reactions, it is well to remain with the patient for an hour after the injection. Dyspnea, substernal oppression, anxiety, cyanosis, rapid and weak pulse are symptoms any of which require an immediate injection of adrenalin. While fatal reactions have been known to occur, they are extremely rare and have been usually in those in whom serum should not have been used because of sensitivity.

### REACTIONS TO SERUM

It is not unusual to have a chill and high rise of fever coming on about one hour after the serum administration. This has occurred in about 25 per cent of my cases. This so-called thermal reaction is sometimes alarming but rarely serious and is treated like any other chill by application of warmth and later efforts to reduce the high fever that follows. I have several times seen rises of fever to 106° and once to 108°. Mild thermal reactions should not modify further treatment, but when severe ones occur the next injection of serum should be of materially reduced dosage and its administration postponed for about four hours after the reaction. A thermal reaction may occur after one injection and not after any others. The first or second injection is more likely to be followed by a thermal reaction than any of the others.

Skin reactions such as urticaria or other manifestations of serum sickness a few days to a few weeks after serum therapy may occur as in any other serum treated disease. They may be disregarded although they are not pleasant.

The results of serum treatment in properly typed cases of pneumococcal pneumonia have been universally recognized wherever the method is used. I do not think it has received the attention in this section that it should have received and this is the sole reason for my selection of this subject today; namely, to try to bring before the attention of the profession the great advantages of this mode of treatment over any other yet advocated. There are some reasons perhaps for the seeming attitude of lethargy on the part of the profession toward the use of serum, but I urge you most strongly to make use of it. Fear of serum reactions following intravenous administration has deterred some no doubt. Serum is expensive and that has no doubt influenced others, but when one considers the shorter period of illness, the more

rapid convalescence, the saving of many days of medical attendance and nursing, perhaps the initial cost may seem great, but the final analysis might not always reveal greater expense than would finally have occurred. Certainly the lowering of mortality should make one willing to assume almost any expense in such a treacherous disease.

### BACTERIOLOGIC DIAGNOSIS

One phase of this pneumonia subject is important I think to the country practitioner and that is the difficulties he may experience in obtaining a bacteriologic diagnosis, I mean the typing of his sputums if he is not equipped to do it himself. It is not necessary that sputum be fresh or collected in sterile containers, but one should be reasonably certain that it was coughed up from the lung. The typical rusty sputum is of course ideal. But it is necessary that it be taken to the laboratory for typing at the earliest possible moment. If the first report is negative for pneumococci of any type amenable to serum it is well to submit a second specimen of sputum for retyping. On some occasions I have seen the second specimen returned type specific when the first one was not. This has probably been due to the first sputum not having been coughed up from the lung tissues.

I believe it is of great importance that health authorities in this section inaugurate a program looking toward the control of the disease such as that in vogue in Massachusetts and New York from where the most favorable reports come regarding curative value of serum. In the larger cities where laboratory help is efficient and close at hand, the sputum examinations are readily and quickly obtained, but to the practitioner somewhat isolated, we should extend help. Efficient laboratory help close at hand is rather essential as early laboratory diagnosis is the keynote in treatment. Blood cultures are important in all cases, as they influence treatment and prognosis. Readily obtainable serum is also another important question to the country practitioner as the expense of stocking serum is not small, especially as it bears expiration date and quantities may be needed quickly.

Many such public health phases of this problem deserve the attention of our state health authorities if we are to reduce the terrific mortality from pneumonia.

### SUMMARY

I would like to report the statistics gathered from records of Touro Infirmary for period from July 1, 1933 to January 1, 1938, four and one half years. Total cases of pneumonia 1019, deaths 322; a death rate of 31.6 per cent. Of these, 200 were said to be lobar pneumonia, with 52 deaths, a rate of 26 per cent; 819 were said to be bronchopneumonia with 270 deaths, a death rate of 32.9 per cent.

During the past three years from 1935 to the present, May 1, 1938, the sputum typed cases numbered 37. Of those not receiving serum 28.5 per cent died. Of those receiving serum 13.5 per cent died. While the number of cases was not great the reduction in mortality is significant and in accordance with that noted elsewhere in much larger groups.

### DISCUSSION

**Dr. Allan Eustis, (New Orleans): I want to say a few words in regard to the use of sera in children. I had an experience last winter when a grandchild of mine had pneumonia in New York. She had type XIV for which there is a serum and at once I wanted to give the serum. Dr. McIntosh and Dr. Howell of the Babies Hospital of the Medical Center advised against this. They had kept records on the use of serum in children, observing thousands of cases for there is more pneumonia in New York than down here, and they were opposed to giving serum to children under four years of age, as their resistance is greater to the disease than adults and they usually recover without serum. They said they had run thousands of cases in children in which they have given serum and thousands in which they have abstained from giving serum, and the mortality is just the same in both groups. They also said that in some cases they have had severe reactions and they hesitate to give serum to children under four years of age.**

**One other point, which has nothing to do with serum, but is also something which occurred in my family to my son, and that is the work of Blake of New Haven in the early collapse of the lung with air. My son had temperature of 106°, respiration 52, and pulse 130. Dr. Jamison injected 500 c.c. of air into the pleural cavity—he had pleurisy—and the respiration dropped after five minutes to 28 and the pulse to 100, and he was relieved of his pain at once. In ten hours, Dr. Jamison gave another 500 c.c. to keep the lung from irritating the pleura.**

We were not able to get sputum to type at first, but as soon as the lung collapsed, he had profuse expectoration, and we typed the sputum, gave the serum, and had spectacular results.

Dr. A. A. Herold, (Shreveport): Dr. Eshleman dealt with the serum treatment which is not to be denied in the cases which are appropriate. I would like to ask what he thinks of the sulfanilamide treatment of pneumonia. I have seen brilliant results with sulfanilamide. I have had patients, who had clinical pneumonia, but without sputum, in whom we have used sulfanilamide therapy, starting with 80 grains a day, and in four days they were completely well. I did not recheck with the roentgen ray, but they had recovered so far as clinical signs, temperature, pulse and respiration were concerned. I have seen results in these cases in which we could not get sputum to type, and in cases of a type to which serum is not applicable. Of course, I have seen beautiful results with Type I and II serum, but often it is difficult to obtain sera of other types at the moment when you need it.

Dr. Randolph Lyons (New Orleans): Of course, Dr. Eshleman did not mean that we were to overlook other measures in the treatment of pneumonia; he simply brought out the specificity of the serum treatment. We appreciate that in this section of the country there are a good many non-specific types of pneumonias and that bronchopneumonia is often not type-specific. In those cases we have to use all the measures we are familiar with. When there is a great deal of pain, pleurisy, as in the case Dr. Eustis mentioned, pneumothorax may be indicated. It is very doubtful if it will ever come into general use. It worked extremely well in relief of pain, but pneumothorax is not applicable to all cases by any means. We have to bear in mind the use of oxygen and other measures.

I have not been successful with the use of prontosil and sulfanilamide in pneumonia except in cases which were due to streptococcus infection. It is well to remember that in very large doses it is a dangerous drug.

It all boils down to the same old fact that we are dealing with an acute, dangerous disease. If we find the type and we have a specific serum, then serum is the thing to use. If we cannot find any specific type, we have to fall back on good nursing and other methods we used in the past.

I would suggest that those of you not familiar with serum treatment get the little book put out by the Commonwealth Fund on the serum treatment of pneumonia. There was a new edition in 1938, and it is only about 98 pages at the most and takes about an hour and a half to read. To my mind, it is the most valuable book on the subject on the market at the present time.

Dr. Rena Crawford (New Orleans): I should like to ask Dr. Eshleman what treatment he gave to the asthmatic, what preparation he made before administering treatment to asthmatic cases?

Dr. Eustis spoke of serum not being proved useful with children. The difficulty of getting sputum to type is a great one with children.

Dr. Charles L. Eshleman (In conclusion): In reply to Dr. Eustis——the intravenous administration of serum to small children is very much more difficult than to adults. I do not treat many children, but I do not see why the effects of serum should be less helpful to them. I know that the general mortality from pneumonia of specific types has been very materially reduced by serum treatment in New York in the past few years. I do not know how long ago Dr. Eustis' boy was ill. Perhaps the New York physicians do not feel that way now. I have had no experience with pneumothorax in pneumonia.

In replying to Dr. Lyons—I concur in recommending the book referred to by Dr. Lyons published by the Commonwealth Fund. It is largely a report of the treatment of pneumonia by serum in Boston and New York and explains the technic and gives statistics of results, as to the use of serum in bronchopneumonia as well as lobar pneumonia. While bronchopneumonia is far more common in children, I want to stress again that it is not a question of whether the patient is a child or an adult, or whether it is bronchopneumonia or lobar penumonia, it is a question of the organism present, the type of pneumococcus.

Dr. Herold asked about the use of sulfanilamide in pneumonia. Our chairman, Dr. deGravelles, in his address, referred to the indiscriminate use of new drugs. I have not given a single dose of sulfanilamide to any of my patients. However, I have permitted my house officer and interne at Touro to give it to a few patients. I have not seen any beneficial results from it in large doses—100 grains daily—in any of the pneumonia patients. I have seen a good deal of cyanotic discoloration produced and it is difficult to tell whether this is true cyanosis due to pneumonia or sulfhemaglobinemia due to the drug. I do not like it in pneumonia from what I have seen.

Answering Dr. Crawford's question about the little girl with asthma who was given serum. She had been under Dr. Efron's care and her asthma was due to sensitivity to house dust. However, we made careful eye and skin tests with the serum and she was not sensitive to serum. A very small dose of serum was given first without any reaction, then we gave the larger doses and without any serum reaction.

# CONSERVATIVE OBSTETRICS AND LOWERED MORBIDITY*

W. F. GUERRIERO, M. D.†
and
C. PRENTISS GRAY, JR., M. D.†
MONROE, LA.

A consideration of the fact that puerperal death is a matter of public knowledge and that there is a universal demand that this death weapon of womanhood be controlled led one of us (W. F. G.) to organize the Monroe Maternity Welfare Clinic where those mothers who needed the proper obstetric care and were unfortunate for various reasons could obtain such. Mays has clearly shown that the maternal mortality rate in Louisiana is a blot to the medical profession. True, many reasons can be given for this for which we as physicians are not to blame; however, the public is looking to the medical profession for a remedy for this situation.

Through the sponsorship of the Catholic Daughters of America and the Maternal and Child Welfare Division of the Louisiana State Board of Health, with the approval of the Ouachita Parish Medical Society, the Monroe Maternity Welfare Clinic has been in existence one year. This clinic furnishes ante- and postnatal care for the rural districts of Ouachita Parish, with a complete delivery service for the cities of Monroe and West Monroe, Louisiana.

In 1935 there were 1035 births in Ouachita Parish with 980 live births, 55 stillbirths and eight maternal deaths, giving a maternal mortality of 8.1 per 1000. In 1936 there were 1112 births with 1045 live births, 67 stillbirths and nine maternal deaths, giving a maternal mortality of 8.6 per 1000. Most of these deaths resulted from the lack of antenatal care and midwifery. It is a review of our results which we wish to present in an effort to show how such a service can be a most effective method in correcting the above mortality.

Since it is almost impossible to furnish hospital delivery service to all patients it behooves us to approach that service in the home as near as possible. This, we believe, can be done when a good standardized procedure for home delivery is followed after the proper antenatal care has been given.

It has been a problem, still is, and will be for some time to come to secure the wholehearted cooperation of expectant mothers. However, by persistent education and the word of mouth passage of the proper care they should expect, we believe that in less than five years every mother will demand good obstetric care, and, as members of the medical profession, we should strive to supply this demand to the best of our ability. As an example of the increased demand for proper care by mothers we wish to state that 65 per cent of our patients had never consulted a physician for care prior to their application for care at our clinic. In nearly all multiparas there was a history of delivery by midwife or hurried delivery by some kind physician at the time of labor without the patient in either instance ever having any antenatal care.

## PRELIMINARY HISTORY

At the first visit to the clinic, and we are attempting to encourage patients to report for care as soon as they know they are pregnant, we carry out a thorough and complete examination. This demands considerable time, but we find it pays for itself. First, we obtain a very careful history which includes detailed menstrual and obstetric histories. Special emphasis is placed on these as often some previous abnormality might be determined. A thorough past and family history are elicited. We have developed the habit of spending many minutes on a Review of the Systems as we have often uncovered some very fruitful information from this.

## THE EXAMINATION

As complete a physical examination as possible is made after the patient is accepted by the clinic. This includes head, neck, chest, abdomen, genitalia, rectal, extremities, and neurologic. Our facilities at present limit some of the laboratory work we would like to have, but in patients whom we feel need it we have arranged to secure it. If any abnormalities of the teeth, eyes, ears, nose and throat are found to be present the patient is urged to have these

*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society, May 4, 1938 at New Orleans.

†From Monroe Maternity Welfare Clinic.

corrected at once. Especially do we stress that dentition be as near perfect as possible. On all cases with albuminuria or hypertension eye grounds are checked. Special attention is given to the mother on the proper care of the breast, as Smith[7] has clearly shown the value of this in preventing complications later. Heart cases are checked frequently and medical consultation secured for severe cases. We feel that the pelvis deserves special attention regardless of multipara or primipara. Routine external pelvimetry is done on all patients but we do not rely entirely on it. Careful attention is paid to the measurement of the transverse diameter of the outlet and the external conjuate. We then perform a careful, painstaking vaginal examination during which we palpate the subpubic angle, the sacrosciatic notch and the curvature of the sacrum. An estimation of the size of the soft parts is also determined. If one will familiarize himself with the work of Caldwell, Moloy[20] and others, the value of such time spent will be seen. At eight months we repeat all our examinations, and in all cases of doubt, where possible, we have Ball pelvicephalograms performed. Routine Wassermanns and urinalyses are made on all cases at once. Blood chemistrys are made on all patients with hypertension and albuminuria.

### INSTRUCTIONS TO PATIENT

After this is completed an informal discussion is had with the patient. In this discussion we pay particular attention to diet, exercise, and personal hygiene. These we feel should be thoroughly and completely discussed with the patient. Hull[9] has shown that faulty diets are responsible for a large series of postpartal heart failures and there are still many who believe poorly planned diets in pregnancy are a precursor to pre-eclampsia. For these reasons we place all patients on a high vitamin diet, especially vitamin B. An attempt is made to relieve the patient's mental anxiety after such an examination. If we feel no trouble will be experienced this is confided to them, at the same time explaining the necessity of their returning on the dates we specify to them so that any unforeseen difficulties might be cared for. However, if some trouble is anticipated we guardedly appraise them of this fact and consult their husbands so that some arrangement for hospital delivery can be made. This latter procedure has been invaluable to us as quite often the husband will see that our orders are strictly adhered to, whereas otherwise they might be neglected.

Each patient is instructed that she will be expected to attend clinic every three or four weeks for the first seven months, every two weeks for the eighth month and every week for the last month. Patients are encouraged to make memorandums, and questions by them at each visit are carefully answered. Routine blood pressure, weight, and urinalysis are performed on each visit to the clinic. At eight months a check of fetal position by bimanual palpation is done along with a recheck of F. H. T. and pelvimetry. If at this time we feel that hospitalization is necessary we do not hesitate to advise it and give the patient our definite reasons for desiring it.

### HOME ARRANGEMENTS

Before going on to describe our procedure in home deliveries we wish to pause and make known the role of the maternity nurse. By arrangement with the Maternal Welfare Division of the Louisiana State Board of Health we have a full time, trained maternity nurse on duty at all times. She is assisted by the nurses from the local Public Health Office. At the time the patient enters our clinic these nurses instruct them in all the necessary articles needed for home deliveries. A home visit is made at various intervals to select the proper room and arrangement of furniture so that no confusion will occur at the time of delivery. At the seventh month the patient's supplies are checked, bundled and placed where they can be easily obtained. Thus one of the greatest obstacles in home deliveries is corrected.

The facts of asepsis have been established and despite frequent denials that this is impossible in the home the essayists beg to disagree. King reported 1373 cases were cared for with a maternal mortality of five patients and a fetal mortality of 21 cases from the Hutchinson Memorial Out Patient Clinic. Though our figures are dwarfed by these we

find that they bear out the fact that properly carried out home deliveries are safe and can be performed with a low morbidity.

At our disposal are fully equipped bags which contain sterile linens, gloves, instruments, sutures, catheters and syringes. Ether is carried and used by the open mask method. All necessary drugs are carried which could possibly be needed. A large beacon searchlight is carried to provide proper lighting facilities when needed. Thus in these bags are maintained practically a sterile hospital unit.

### THE DELIVERY

At the time of delivery the patient is given a cleansing enema, shaved and washed with soap and water. This is followed by sponging with a 4 per cent solution of lysol. After this all efforts are made to make the patient comfortable. We have used sodium pentobarbital and seconal with fair success as basal anesthetics.

On first arrival, if the observation shows the patient to be in hard labor, a rectal examination is made following exactly the same procedure used in any good hospital. The patient is then left alone unless we feel she has not made proper progress in a period of time. Promiscuous rupture of membranes and use of pituitrin prior to delivery are absolutely forbidden except in well defined cases and these have been few.

When the outlet is seen to bulge sufficiently and the presenting part appears the patient is draped with sterile linens and the perineum cleansed with lysol solution. We do no ironing out of the perineum nor do we continuously keep a hand in the outlet. Under light ether anesthesia the presenting part is delivered between pains. Immediately following this we sever the cord and cleanse the infant's upper respiratory tract. Inspection for lacerations is then done and if any are present they are promptly repaired. No effort is made to express the placenta for we have found by being nature's assistant we have little postpartal bleeding and no retained secundines. After delivery of the placenta we give immediately 1 c.c. of pituitrin. We carry packs and other necessary equipment always in easy reach in anticipation of postpartal hemorrhage. Fifteen minutes later we begin ergoklonin, 0.5 drams, by mouth and thence once every three hours for four doses to retain uterine contraction. After the patient has again been made comfortable in bed a check of her condition is made by taking blood pressure, pulse, height of uterine fundus and flow.

### POSTNATAL CARE

We have made it a habit to see that as much importance is attached to postnatal care as antenatal. Frequent periodic visits are made by the nurse. Routine orders for diet, exercise, care of breast, and elimination are given. Any fever is immediately checked and an attempt made to locate the cause. All patients are required to remain in bed for 10 to 12 days if postnatal care has been uneventful, otherwise each patient is individualized as to her particular need.

At the end of the postnatal period we request all patients to report to the Clinic for a thorough examination. Any treatment such as cervical cauterization is then done. We follow all patients with hypertension and nephritis by having them return at frequent intervals for a check of their condition.

### RESULTS

Thus, by following the above outlined procedures, none of which are new, we have the following results to show for our first year's efforts: In Table 1, it is seen that a total of

TABLE I

TOTAL CASES FROM MARCH 15, 1937 THROUGH APRIL 15, 1937

| | White | Colored | Total |
|---|---|---|---|
| Home deliveries | 31 | 49 | 80 |
| Hospital deliveries | 17 | 4 | 21 |
| Examinations | 16 | 19 | 35 |
| Total | 64 | 72 | 136 |

136 patients were admitted for care. Of this number 67 were white and 72 colored. There were 80 home deliveries of which 31 were white and 49 colored. A total of 21 patients were referred to hospitals for delivery because of some abnormality. Of these 17 were white and four colored. Antenatal care and examination was given to 16 white and 19 colored patients who arranged for delivery either through physicians or hospitals.

Table 2 shows a total of 39 primiparas and 97 multiparas with about an even distribution between white and colored.

TABLE 2
PARITY OF CASES

| | White | Colored | Total |
|---|---|---|---|
| Primipara | 20 | 19 | 39 |
| Multipara | 46 | 51 | 97 |
| Total | 66 | 70 | 136 |

Table 3 provides a list of complications encountered during the antenatal period. As can be seen there were 18 cases of syphilis, an incidence of 13 per cent, with a colored incidence of 15.6 per cent; six cases of pre-eclampsia; five cases of hypertension, and one case of nephritis were found. The patients with hypertension and nephritis all had previous histories of such and were present in early pregnancy, whereas, the pre-eclampsias occurred primarily

TABLE 3
PRENATAL COMPLICATIONS

| | White | Colored | Total |
|---|---|---|---|
| Borderline pelvis | 9 | 10 | 19 |
| Syphilis | 1 | 17 | 18 |
| Cardiac | 2 | 3 | 5 |
| Pre-eclampsia | 5 | 1 | 6 |
| Nephritis | 0 | 1 | 1 |
| Pyelitis | 2 | 0 | 2 |
| Hypertension | 2 | 3 | 5 |
| Malaria | 1 | 0 | 1 |
| Infantile paralysis | 1 | 0 | 1 |
| Varicosities | 2 | 0 | 2 |
| Uterine fibroid | 0 | 1 | 1 |
| G. C. arthritis | 0 | 1 | 1 |

in primiparas, there being no multiparas in that group. The most frequent complication was borderline pelvis of which six had Ball pelvicephalograms for confirmation. A report of these will be presented later.[17] Included in this group were all cases with a diagonal conjugate of 11.5 cm. or less and a transverse of outlet of 8 cm. or less. Five cases of heart disease are noted of which two were white multiparas with rheumatic heart disease, and three colored (two primiparas, one multipara) with syphilitic heart disease. All had uneventful, uncomplicated labors.

Table 4 shows the intrapartal complications. There was only one case of mid-forceps but on several occasions low outlet forceps were used. Placenta previa (marginal) occurred once and delivered without any difficulty. One case of eclampsia occurred in a white primipara and under conservative treatment recovered with delivery of a live baby. A total of five frank breech presentations occurred, three being white multiparas, one colored primipara and one colored multipara, giving an incidence of 3.8. Lacerations are shown and all occurred in primi-

TABLE 4
INTRAPARTAL COMPLICATIONS

| | White | Colored | Total |
|---|---|---|---|
| Forceps | 1 | 0 | 1 |
| Placenta previa | 0 | 1 | 1 |
| Eclampsia | 1 | 0 | 1 |
| Breech | 3 | 2 | 5 |
| Lacerations, first degree | 0 | 1 | |
| Second degree | 3 | 0 | 4 |
| Twins | 1 | 0 | 1 |
| Uterine inertia | 1 | 0 | 1 |
| Postpartal hemorrhage | 0 | 1 | 1 |

paras who had good results on their return for postpartal examination. One case of twins occurred in a white multipara with rheumatic heart disease who had an uneventful labor after being compensated during the antenatal period. One incidence of postpartal bleeding occurred in a colored multipara which was checked by the use of pituitrin and vaginal packs.

In the postpartum two colored primiparas developed mastitis which cleared up in two or three days with conservative care. This low incidence of breast complications we believe is due to teaching proper care of the breasts to our patients both during antenatal and post-

TABLE 5
POSTPARTAL COMPLICATIONS

| | White | Colored | Total |
|---|---|---|---|
| Mastitis | 0 | 2 | 2 |
| Pyelitis | 1 | 0 | 1 |
| Postpartal hypertension | 0 | 8 | 8 |
| Malaria | 1 | 1 | 2 |

partal periods. It is noted we have listed eight cases of colored primiparas who at postpartal examination showed a marked hypertension whereas there had been none during the antenatal period. Since Meyer's[12] publication we have found five more cases, all colored. We are seeing these patients once every six weeks and will give a report on them later. One case of postpartal malaria was encountered.

We follow the rule of temperature 100.4° for any two or more days in classifying morbid-

ity. In only two patients in our series was this present and these had normal temperature by the fourth postpartal day. This is an incidence of 2 per cent. Grier[5] recently presented 4837 cases from the Evanston Hospital with a morbidity of 3.8 per cent in spontaneous deliveries and 6.5 per cent including operative deliveries. He states definitely that any form of operative delivery increases morbidity and that conservative obstetrics with minimal interference and then only when indicated will produce a low morbidity and hence a low mortality rate. Our conservative methods have borne this out and we attribute our low morbidity to this.

### FETAL MORTALITY

Table 6 gives a complete description of our fetal mortality. There were 102 births with three deaths, giving an incidence of 2.9 per cent. We feel that only one of these patients should have been lost and that was the breech with congenital heart disease and enlarged thymus. One baby was stillborn after mid-forceps and

TABLE 6
FETAL STATISTICS—MORTALITY

| | |
|---|---|
| Case 88 | Colored, aged 20, para 2, gravida 3. Frank breech delivered after 3 hour labor. Baby resuscitated after one-half hour. Expired 24 hours later from congenital heart disease and enlarged thymus. |
| Case 80 | White, aged 20, para 0, gravida 1. Borderline pelvis, hospitalized for delivery. Long labor; midforceps. Stillborn infant. |
| Case 133 | White, aged 24, para 2, gravida 3. In labor with ruptured membranes 36 hours before calling for physician. On arrival stillborn precipitate. Possible intracranial hemorrhage. |

| | |
|---|---|
| Fetal Births | 102 |
| Living | 99 |
| Dead | 3 |
| Mortality per cent | 2.9 |

the mother had been hospitalized because of a borderline pelvis. The third fetal death was due to ignorance on the part of the patient's family for not calling when labor began. All patients are strongly advised to do so by us and she was especially urged to do so since an antenatal diagnosis of breech was made.

### SYPHILIS

Table 7 gives a detailed description of the cases of syphilis. One white and 13 colored patients received treatment in varying amounts depending on the stage of pregnancy and tolerance. Four colored patients in the examination group were not treated because of their failure to report for therapy. We demand that all cases of syphilis receive therapy or refuse to carry them in the clinic. Such therapy is given by one of us to all cases. It is to be noted that cord Wassermanns are made on all cases at delivery. We do not feel that a negative cord Wassermann means that there is no further

TABLE 7
RECORD OF SYPHILITIC CASES

| | |
|---|---|
| Colored—treated | 13 |
| Colored—not treated | 4 |
| White—treated | 1 |
| Colored—Cord Wassermann | |
| Negative | 10 |
| Positive | 3 |
| White—Cord Wassermann | |
| Negative | 1 |
| All treated—living | |

need for observation but recommend that these be repeated in six months. Those cases with positive cord Wassermanns are advised as to therapy at once. We do not allow any syphilitic mother to nurse her child regardless of the mother's Wassermann at the time of partuition. We feel that by energetic therapy we have thus prevented stillbirths in this group as all infants were healthy and at our last resume were in good health.

### CONCLUSIONS

It is clearly seen that such a service as this with the results obtained can do much toward combating maternal mortality. Though yet a young service we believe that it has justified our purpose as we feel that it is the duty of organized medicine to remedy any causes which may be responsible for our maternal plight.

**We wish to express our appreciation to Drs. L. L. Shlenker, G. D. Williams, C. B. Flinn, M. W. Hunter; and to B. L. Woodville, F. Spriggs, A. Barr, A. Humphries, A. Rogers, R. Marchese, A. Tarver and J. Shearman, R. N.'s, for their aid in this service.**

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## DISCUSSION

Dr. E. L. Zander (New Orleans): I think this paper is of extreme interest to all of us who are vitally interested in low mortality rates. I believe, very firmly, that proper antenatal and intranatal care will lower the mortality rate considerably. Antenatal care will avoid complications which we sometimes get during delivery. By prenatal work we may, by proper handling of cases, avoid operative interference, which is sometimes unnecessary. By proper postpartal care, we may avoid some of our postpartal complications. In the city of New Orleans in 1937 there were 9500 deliveries and 87 deaths. The Child Welfare had 1041 deliveries with ten deaths. These figures compare with the report given in the paper just presented.

An analysis made of ruptured uteruses in the Charity Hospital in New Orleans showed that there were 37 ruptured uteruses that occurred in 23-year period. These cases occurred primarily as the result of bad obstetrics. Most of them were the result of bad operative obstetrics. I believe definitely, that the proper care of these cases will avoid such complications.

One thing I would like to stress is that at Charity Hospital we are in the habit of making roentgen rays on all primiparas. Drs. Guerriero and Gray mentioned the fact that they roentgen ray in cases where they expect difficulty. We have made it a practice to make routine roentgen rays on primiparas.

As has been mentioned, some difficulty is caused by the apparatus used to obtain measurements.

This paper brought out several things to me. The first was the conservatism in most of the essayists' work. For instance in 136 cases, I believe they had only one forceps delivery and although they used low forceps quite a few times, this does not mean that there were abnormalities but that this procedure was followed in order to facilitate delivery.

I did welfare work for a considerable time and believe that home delivery, with proper care, can be done without necessarily having infection.

In regard to the syphilis cases reported, there were 70 colored cases reported in the 136 recorded, which accounts, in my opinion, for the high amount of syphilis found. Whenever there are colored cases, you are bound to have a lot of syphilis.

Dr. Joseph W. Reddoch (New Orleans): There is one point that I would like to emphasize and that is something which gives most of us a great deal of trouble when it comes to evaluating the possibility of normal or operative delivery, namely, the question of pelvic measurements. I believe that the majority of us have a tendency to rely too much upon the measurements as we get them with the pelvimeter. I think there is a lot to be done in evaluating the possibility of delivery by giving the patient a chance, not a test of labor, but giving her a trial for a few hours and watching the progress of the head.

I would like also to add, that there is a general tendency, among interns particularly to a desire to terminate a labor with forceps as soon as the cervix is completely dilated and the patient is having fair pains but not making as much progress as she might have made. I have repeatedly seen patients on the white and colored services at Charity Hospital in whom pains were fair but no effort at all was made to let the patient help herself. These should be helped by encouraging them to use their pains, and not always delivered with forceps.

Another point which will help to lower maternal morbidity and fetal morbidity and perhaps maternal mortality is the question of adequate fluids. Proper nutrition in the first stage and to a certain degree in the second stage will accomplish a great deal in cases with long labors, supplementing what is taken by mouth with intravenous infusions, making sure that the patient receives a total of about 3000 c.c. of fluids in the course of each twenty-four hours.

Dr. E. Perry Thomas (New Orleans): Dr. Guerriero and Dr. Gray mentioned one point which I

think should be of interest to all physicians. That point is the fact that 65 per cent of the women who were seen had had no prenatal care in former pregnancies. The United States Bulletin of Maternal Mortality, in thirteen states, revealed the fact that of the total deliveries occurring in those states, only 50 per cent had ever been examined by a physician or seen prior to delivery. Only 20 per cent had received prenatal care, classified as accurate, and one per cent had received prenatal care measured to high standards. Dr. Fred Adair, who is probably more concerned with prenatal care and more interested than any other one physician in the country, has investigated the possibility of improvement in maternal mortality as well as infant mortality, which prenatal care can cause.

A large percentage of deaths is due to syphilis. These preventable deaths, shown by statistics, are due to causes which most probably can be eliminated. By using the best methods, birth trauma may be eliminated.

The authors of this paper have rendered a valuable service to their community and deserve praise from the citizens of Monroe.

Dr. Harry Meyer (New Orleans): Having done obstetrical work for the Child Welfare Association for the last three and a half years, I am particularly interested in this report. The conservative management of obstetrics which of necessity must be done in the home is the big factor in lowering morbidity and mortality rates.

I would like to reemphasize pelvic measurements. We in our clinics here have more or less given up external measurements, which are of practically no value due to the interference of many elements which make our results erroneous. Internal measurements, on the other hand, are of great importance, but even more important is the presence of feto-maternal proportion or disproportion which can only be determined by examination when the patient is first seen, again at eight months, and possibly again at the onset of labor. Only by this method are we best able to tell whether that particular baby can be delivered through that particular pelvis.

I would like to explain what is called the absent form of treatment in home obstetrics, which can be used to great advantage. Our routine here is that when the patient goes into labor, the nurse is called. She prepares the patient and checks the condition of mother and baby and then reports to the physician. If labor is progressing normally, the physician need not visit the patient at that time. It only becomes necessary to see the patient when delivery is imminent or some abnormality arises. This so-called absent form of treatment accomplishes several things. First, it avoids unnecessary vaginal examination which we are prone to do if we are waiting for the patient to deliver. Second, it avoids the giving of sedatives injudiciously. Third, it avoids the constant nagging by the family to do something to help the patient out of her misery. It is necessary, of course, in carrying out such a program to employ nurses trained in the art of obstetrics.

The terminating of the second stage of labor with low forceps is the accepted procedure in hospitals, but if we are delivering patients at home spontaneous delivery should occur and does occur if the patient is given sufficient time. By this method we are able to lower to a great degree maternal and fetal mortality and morbidity.

Dr. C. Gordon Johnson (New Orleans): An important point that has not been stressed very much, which I think is very important for home delivery, is the matter of whether a vaginal or rectal examination is done. I had the good fortune of spending time at the Chicago Maternity Center, which was begun under the direct supervision of Dr. Joseph DeLee, and a report from that clinic, of three years' work with approximately 6000 cases reported, showed a maternal mortality of six patients out of the 6000 cases. All of the patients are delivered in the home and in a great majority the patients have not been seen at the clinic prior to the time that a call is sent in for some one to come out and deliver. I believe that this lowered mortality and low morbidity as well, is due to the fact that no vaginal examination is done unless the patient is prepared for delivery. By that I mean that no vaginal examination is done in the bed. If the patient is to be examined vaginally, she is placed on a table and prepared just as though she were in the operating room. Rectal examinations are the only ones done and I would like to ask Dr. Guerriero and Dr. Gray just what technic they follow so far as the vaginal and rectal examinations are concerned.

Dr. R. B. Wallace (Alexandria): Certainly the purpose of this paper is to prevent mortality in the mother and child. It does not seem that all the mortality is produced after the patient gets to the doctor. The mortality is also imminent before the prospective mother ever arrives. In rural districts people do not seem to know that they should consult a physician before the pain begins. I believe we have a duty there.

In some other countries, for instance Denmark and Japan, a mortality of two or three per cent has been maintained. We have maintained a mortality of six or seven per cent. There certainly must be a reason for this. One reason is the lack of care. I can recall three instances where the mother and the child died. The doctor was called when the patients, in all three instances, were in

convulsions and they had not previously consulted a doctor. A lot of them do not know that they should do that. I believe that it is the duty of the Society directly and indirectly to have people informed. This Section could appoint a committee to draw up a pamphlet that may be given to every couple when they apply for a marriage certificate. It would be instructive to them, outlining all the things that prospective fathers and mothers should know and I believe that both maternal and infant mortality would be reduced.

Dr. W. F. Guerriero (In conclusion): In answer to Dr. Johnson's question, I would like to say we have been following practically the same technic as outlined by DeLee at the Chicago Lying-In Hospital.

We perform no vaginal examination until the patient is ready for delivery except in those patients who show some indication. We have followed this, because by proper abdominal examination during the prenatal period we feel that we have learned whether any abnormalities are present. We carry a complete sterile bag as is used in the Child Welfare Department in New Orleans. We believe our lowered morbidity is due, as previously stated, to our non-interference during delivery.

Regarding Dr. Meyer's discussion, I would like to state our procedure is this: The patient is informed to call us when labor begins. The nurse and one of us answers this call, and a general check of the patient is made other than a vaginal examination. The nurse is allowed to remain until the patient has progressed well into the second stage of labor, at which time we again return and remain with the nurse until delivery occurs.

## IMMUNOTRANSFUSION IN OTOLOGY*

MERCER G. LYNCH, M. D.
NEW ORLEANS

The use of blood transfusions in the treatment of septicemia of otitic origin, as well as from some other cause, has generally been accepted. There is a stimulation and response that cannot be denied as well as a steadying and slowing of the pulse with drop in temperature that denotes a benefit to the resistance and responsive powers of the patient.

Sera and chemotherapy have been used with varying degrees of success. Mercurochrome, acriflavine, Pregl's iodine and at present, sulfanilamide, and others have been used at various times and with favorable reports in some cases. But where one is dealing with a hemolytic and blood destroying type of infection, then that type should be treated with the replacement of blood and the other measures used as an aid against the infection, unless there is a specific drug or sera for that type.

Stephenson used a non-specific transfusion in a case of hemolytic streptococcic septicemia with recovery. This was a contribution of great worth, principally because of its availability without waiting for results of blood cultures, the making of vaccines and the specific immunization of donors. Non-specific immunotransfusion therapy is based on the principle of increasing the formation of non-specific antibodies or opsonins in the blood of the donor. It is possible to inoculate blood in vivo with non-specific bacterial agents and this blood, six to eight hours later, has certain curative effects in many types of infection. This is done by intravenous injection of 1/10 c.c. stock typhoid vaccine containing fifty million killed organisms. There is a reaction one-half hour later, producing temperature of 100 to 104°, chills, nausea and vomiting, which subsides in about two hours and in six to eight hours later the white count is 15-20,000, at which time the transfusion is given. Specific transfusion is of greater value than the non-specific, but has the disadvantage of taking from four to five weeks and requires a competent bacteriologist and a well equipped laboratory.

One can see that these procedures take some period of time and if there is to be success one must act quickly and as soon as possible in order to get the desired results for frequently, in septicemia from acute conditions there is little enough time to do anything. Even so, the treatment of septicemia is attended with great difficulties. The most important and the first thing to consider is adequate surgical drainage of the foci of infection if possible, for without this the benefit of the immunotransfusion or of any form of treatment is only transitory.

In considering this method and its use as well as the determination of the condition of the patient prior to and after treatment, let us consider the causative factors first. Disease is produced by the ability of an organism to in-

*Presented before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938, at New Orleans.

vade the body and by its capacity to produce toxins. These are separate qualities and require separate antibodies for their neutralization. The prevention of the invading power and the multiplication of the organisms in the tissue and blood is by phagocytosis and digestion. The organism is only able to produce and spread if the body does not have enough antibacterial antibody in the serum. The toxic element is destroyed by the use of antitoxin plus restraining the growth of the organism.

Each condition has its own manifestations. The septic element is denoted by local cellulitis or abscess, lymphangitis, picket fence temperature, chills and positive blood culture. The toxic element is denoted by cutaneous erythema, sustained elevation of temperature and rapid pulse. Frequently there is a combination of these elements at work at the same time.

It has been shown that one part of serum to eight parts of blood will give enough antibody to resist invasion. The scarlet fever and erysipelas antitoxins combat the toxic manifestations.

### TECHNIC

The technic of this method is to withdraw 8 c.c. of blood from the patient's vein and defibrinate it by means of glass beads. Take 1/4 c.c. of this blood and measure into a test tube, then add one drop of the positive culture and one drop of donor's serum, rotate in centrifuge 16 revolutions per minute at 37° centigrade for 15 minutes. Make a blood smear and count the number of organisms in the leukocyte and the per cent of leukocytosis containing the organisms.

The donor is selected first as having had scarlet fever, erysipelas or septic sore throat; then after typing and cross matching, the above procedure is carried out. The donor whose serum causes the patient's cells to take up the most organisms in the greater per cent of leukocytes is the one having the most antibacterial antigen, and he is selected.

Recently, in septic cases that show either a lateral sinus thrombosis or a perisinus abscess, or in those very acute cases where there is a diffuse infection with rapid destruction of the mastoid and general manifestations of sepsis, a culture and a smear are used in the same procedure and the results have been most gratifying.

In order to determine the resistance and improvement of the patient, Schilling counts are made prior to transfusion and then six to eight hours following when there is a sustained shift to the right the transfusions are discontinued. Small transfusions are advocated, 150 c.c. to 200 c.c. every eight hours for 24 hours then 300 c.c. daily or every other day as the patient's condition warrants, until the shift is to the right. This is time saving, for a transfusion can be given two hours after positive culture. There is no objection on the part of the donor to any sort of injection as is frequently the case and there is no reaction as in the case of chemotherapy.

If there is an erythema, either scarlet fever or erysipelas serum is injected and if it blanches the area for one-half hour it is taken as an indication of the favorable need of the antitoxin and 5 c.c. is injected intramuscularly.

To illustrate these points and bring out the use of the transfusion and antitoxin, three case reports are presented.

### CASE REPORTS

**Case 1. A white female, aged 27, entered the hospital complaining of severe earache on the right side for past two weeks. Three days after the onset she had a spontaneous rupture of the drum with bloody discharge which remained thin and sero-sanguinous. Two days prior to admission she had a chill with temperature 104° and had three such chills. On admission, the temperature was 104.2.° Examination showed tenderness over the mastoid; the posterior canal was not down, but there was a posterior superior perforation with a pulsating, serous discharge. Nose and throat were negative; neurologic examination negative. Roentgen ray showed beginning destruction in the region of the lateral sinus. Blood culture was taken and a right, simple mastoid done. The sinus plate was necrotic and perisinus abscess was found with thrombosis of the lateral sinus from the posterior superior angle to the bulb. Culture was taken from the thrombus and the front face of the sinus was removed, free bleeding from upper end only. The wound was left open and packed. She had a chill that night with temperature 105° and again the following morning with a rise to 106°. Schilling count showed a shift to the left. Positive culture was reported and after tying the jugular, an immunotransfusion was given. Following the first transfusion she**

had no more chills, temperature remained 102°; after the third transfusion, temperature was 99° and after the fourth, the following day, temperature was normal and remained so, the patient making an uneventful recovery in three weeks.

This is an illustration of a purely septic case in which the antibody antigen had the desired result. Four transfusions were sufficient, three of 150 c.c. each at eight hour intervals and one of 300 c.c. twenty-four hours later. The Schilling index remained to the right showing a favorable prognosis and the transfusions were discontinued.

Case 2. A white female, aged 18, was admitted to the hospital with a history of foul discharge from right ear for 14 years. For the past three weeks she had had right sided headaches and dizziness; day prior to admission a chill and temperature 104°. On examination, slight mastoid tenderness on the right, foul, thick purulent discharge with a question of cholesteatoma, large posterior superior perforation, redness about the mastoid and down over neck, pulse 140, the nose and throat negative, neurologic examination negative, eyes negative; roentgen ray report, a large cholesteatoma. Radical mastoid was done at once and the sinus plate found eroded through by a large infected cholesteatoma with a perisinus abscess and granulations over the sinus, but no thrombosis. That night, patient had a chill with temperature 105°; blood culture taken which was reported positive in 12 hours. Schilling index to the left. Three immunotransfusions given and patient had a chill four hours following the first but none following the third transfusion. Temperature remained 103° and after the third transfusion 10 c.c. of erysipelas serum given eight hours apart in 5 c.c. doses. The following day, after the fourth transfusion, red splotches on her neck disappeared, temperature 99° and pulse 100. No more chills and patient made an uneventful recovery in four weeks.

This illustrates a combination of the two elements, namely; toxic and septic. The transfusions were not enough, but with the aid of the serum, were sufficient to cause Schilling index to the right which was sustained.

Case 3. A white male, aged 46, with a carcinoma of the nose, was admitted to the hospital. The growth was limited to the bridge at the junction of the nasal bones and lateral cartilage and was 1 cm. long and ½ cm. wide, with necrosis of the bone and septal cartilage and erythema of the skin following roentgen ray. With local treatment the infection subsided, although not cleared, and the nose was removed. The following day patient had temperature 103°, pulse 150, nausea and general malaise. The erythema, which had subsided, appeared and spread over the face, but no chills and the temperature remained 103°. Blood culture was negative. Ten c.c. of erysipelas serum was given plus 300 c.c. of whole blood. After the fourth dose of serum the temperature came down to normal, erythema cleared with the second dose, no more nausea, patient had plastic surgery and eventually was discharged.

This illustrates the toxic case. The transfusion was given merely as a palliative measure, as is advocated in the toxic cases.

## CONCLUSIONS

Immunotransfusions have generally given better results than chemotherapy and sĕra. They must be accompanied by adequate surgical drainage where possible, otherwise give only temporary relief.

The method outlined above of the septic element and the toxic element, immunotransfusion in the former and the immunotransfusion and antitoxin in the latter have given the best results to date. Although only 10 patients have been collected so far, 100 per cent have recovered.

## DISCUSSION

Dr. W. A. Ellender, (Houma): Immunotransfusion is a relatively new subject and very little work has been done in the South on it. In selecting donors for transfusions there are always a few general things to be remembered. Try to select a young and robust individual if possible. Secondly, select an individual who is free from any communicable diseases and it is well to remember the possibility of protein sensitivity in some of these cases. The cases that Dr. Lynch has reported were certainly very sick individuals and the results obtained from the use of immunized blood certainly show the practical value of using this method in otology.

In any type of virulent infection the most important thing of course is adequate drainage. After that is established the prognosis on all cases depends upon the individual resistance.

The use of the non-specific type of immunotransfusion is the more practical type. The specific type is more effective but as pointed out by Dr. Lynch it takes a longer time to immunize the patient against the specific organisms. Giving typhoid organisms to patients to stimulate antibody formation requires but a short time and as I have said seems more practical. One might say, why not just inoculate the patient and let him develop his own anti-bodies? This, of course, has been used as we all know but in the type of infection that Dr. Lynch has described we are dealing

with blood destroying organisms and replacement of the blood is very important.

Dr. J. Raymond Hume, (New Orleans): Dr. Lynch has presented a method that is certainly correct in every respect. From the results acquired in these cases and the seven additional he mentioned, it is certainly a successful treatment in fact.

A few years ago, four or five, there was a great deal of interest in otologic literature regarding the various methods of immunotransfusion in handling these septic cases. Then the study of immunotransfusion with sulfanilamide came on the scene. It has ruled the stage for the past three years and is probably a great subject of study in immunotransfusion.

One man had asked that all cases in his hospital be registered that had recovered from septic conditions wherein the organism had been typed, especially streptococcic types. Four or five weeks after recovery they were asked to present 500 c.c. of blood, from which a serum was made and kept in supply. Then upon the development of otologic or septic cases of any kind the culture was made and typed as early as possible and the patient was given the serum. It seemed to be very much more effective and it is suggested to many of us that it might be a good thing for other cities to do.

Now that Dr. Lynch has offered this system of blood transfusion, it might be acquired from those recovered from infections. Certainly it is not difficult to register and have available donors in the event they are needed. Most of us who are doing ear work know that thrombosis of the lateral sinus or blood stream infection from the sinus is a serious condition. Dr. Lynch is proposing a splendid thing and the suggestion that we have registered donors so that we may get blood in the beginning, will be worth while.

Dr. H. Ashton Thomas, (New Orleans): I wish to ask Dr. Lynch one question in this respect. It refers to the donor. How recent would the infection have to be in the case of the donor to be of benefit in his particular type of transfusion? I would like to know whether it would have to be a recent infection, within three or four months or even a year or more and yet be a suitable donor.

Dr. Mercer G. Lynch, (In conclusion): There have been many good results in years past and before my time with mercurochrome. I have seen one remarkable case from use of this drug, another from acriflavine, and several from Pregl's iodine. Recently, the use of sulfanilamide was called to our attention, and the advantages that this drug has produced in these severe infectious cases. There have been many good results. Think back, you who have used it, and see how many bad results or complications you have had by using it. We have used it quite frequently on the Nose and Throat Service. Cases are reported which had anuria, and vomiting, and cases where these symptoms were so marked medication had to be discontinued for a while. There were some patients in whom, following the use of sulfanilamide or prontosil, the temperature remained elevated as long as the drug was used and did not come down until the drug was discontinued. Several patients in the beginning had to be administered oxygen for severe anoxemia.

In cases where transfusion is used, not only is one helping to fight the infection, but where the infection is of the hemolytic streptococcal type the blood is being replaced that is lost. If the time for transfusion is carefully chosen there should be no bad reactions.

In answer to Dr. Thomas' question as to the selection of a donor who has had either scarlet fever, septic sore throat or erysipelas, I have found that six weeks is the minimum time to take cases. Several have had their sickness a year. It is known there are many different strains of septicemia and many types. A septic sore throat of one type may not exactly fit the type causing the present illness. That is why in several people who have had erysipelas, scarlet fever or septic sore throat, one will be found out of five or six who stand out above the rest, in that their serum causes the patient's cells to take up a greater number of organisms.

NEW ORLEANS
**Medical and Surgical Journal**

*Established* 1844

Published by the Louisiana State Medical Society under the jurisdiction of the following named Journal Committee:

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*SUBSCRIPTION TERMS*: $3.00 *per year in advance, postage paid, for the United States;* $3.50 *per year for all foreign countries belonging to the Postal Union.*

*News material for publication should be received not later than the twentieth of the month preceding publication. Orders for reprints must be sent in duplicate when returning galley proof.*

THE JOURNAL *does not hold itself responsible for statements made by any contributor.*

*Manuscripts should be addressed to the Editor, 1430 Tulane Avenue, New Orleans, La.*

## STATE MEDICINE

The splendid address of Dr. Charles M. Horton, delivered before the annual meeting of the Louisiana State Medical Society in May and published in the June issue of this journal, should be read carefully and digested thoroughly by every member of the State Medical Society. The address is replete with arguments showing why State Medicine would be harmful to the development of the medical profession in the United States and a distinctly detrimental method of practice as applied to the citizens of this state and country.

There are several statements in this address which well might be restressed and again accentuated. Horton writes, for example, that the practice of medicine is comparable to individual liberty. It is fundamentally an expression of the ethical life and it will suffer to a high degree if its liberty is invaded. State Medicine would contain evils which would probably be worse than those faults it purports to correct. Politics is likely to dominate State Medicine and health measures. Again, to paraphrase Dr. Horton, this is particularly dangerous because there are certain inherent faults with any large system which is governed and controlled politically. He says, furthermore, that there is bound to be a rise in taxation, particularly of interest to those who are called upon to pay the taxes and who resent the present imposts.

Under state controlled medicine men would be further regimented. A noble profession would be dragged into the dust at the instigation of sentimental social theorists. Sentiment has never been a success in practical life. He quotes President Wilson as saying, "it will be a sad day for society when the sentimentalists are encouraged to suggest all the measures that should be taken for the benefit of the human race."

Horton says State Medicine is the beginning of the end of state government. The Commonwealth gives up its privileges and prerogatives to let the central government dominate; where it dominates, eventually it controls; once a bureau is established it keeps on getting larger and larger and demanding more and more from the taxpayers.

The advancement of scientific medicine is dependent upon independence in medical practice. The independence of our citizenry has been gained through tremendous trial and prodigious expenditure of blood. Let us not lose the priceless heritage which our forefathers gained for us a century and a half ago; let us maintain our independence; let us preserve our intellectual and medical freedom.

## NERVOUS COMPLICATIONS OF MEASLES

Under the above caption appears a short article from the University of Cambridge which, in spite of its brevity, merits comment. Nervous complicatons of measles apparently are increasing in incidence, possibly because the physician is more on the lookout for them than he has been in the past, but nevertheless they are being recognized and the reason for this does not make very much difference.

Six groups of clinical expression of central nervous involvement have been cataloged: First, mild and transient diffuse cerebral symptoms, such as stupor, headache and vomiting, with possibly a suggestion of meningismus. These patients usually recover but may develop one of the subsequent clinical manifestations of brain involvement. Second, these lesions consist of multiple focal or diffuse involvement of the nervous system, producing symptoms such as tremor, spastic weakness of the extremities, aphasia, or they may even mimic a true meningitis or encephalitis. Under three are listed aphasia or hemiplegia as result of a group of single focal cerebral lesions. The fourth group is that one which expresses cerebellar syndromes such as scanning speech, nystagmus, intention tremor, or general or local ataxia. In the fifth group are the special cord syndromes such as acute ascending paralysis. The last group, number six, are miscellaneous nervous complications such as toxic psychoses and papilledema. This division of the nervous complications of measles, sketched above, was made by Ford in 1928. There seems to be no reason why it should be changed in 1938. In Ford's series of cases the mortality rate was about 10 per cent and about 60 per cent of the children who survived showed residual symptoms.

The pathology in central nervous involvement includes: (1) congestion and hemorrhage; (2) perivascular infiltration, and (3) perivascular demyelination, a picture comparable to that which occurs in post-vaccinal encephalitis and other types of encephalitis which may develop after some of the acute childhood diseases. It has been suggested, incidentally, that the encephalitis which occurs after the acute exanthemata may be due to an entirely different virus than the one which produces the primary disease.

The nervous expressions of these childhood eruptive fevers may first show themselves between the third and fifth day; then there is a lapse of five or ten days in which they are unlikely to develop and then between the tenth and twentieth day of convalescence they may put in their appearance if they have not already done so. In the present case report of Cole* the patient, somewhat less than three weeks after the onset of an attack of measles, developed her symptoms of encephalitis. She had slurring of the speech, diplopia, exaggerated tendon reflexes and some choking of the disk. Lumbar puncture was performed but it showed nothing, contrary to the usual findings which are an increased cell count up to 200 per cu. mm. made up largely of lymphocytes. This patient subsequently developed weakness of the face and nystagmus, together with delusions and hallucinations. In about three weeks her signs and symptoms had disappeared and a year later her neurologic examination in every respect was normal.

The physician should be on the watch for the clinical manifestations of the nervous complications of measles. Perhaps as they are so obvious it is not as necessary to be on the lookout for them as it is to know that when they do appear they usually are not fatal and that the patients recover with only a very small trace of residual symptoms at the most.

## SOCIAL MEDICINE

Editorially, comment was made last month of the meeting that is now being held in Washington under the leadership of Miss Josephine Roche. It was pointed out that this meeting had varied implications for American medicine; it was felt that the meeting would be very largely one which would be the initial effort of the Federal Government to take over the conduct of medicine throughout this country and in the

*Cole, A. E.: The nervous complications of measles, Brit. Med. J., p. 1361, June 25, 1938.

several states. In other words, it might mean that following the meeting there would be recommendations that all health measures, from the prevention of disease on a large scale to the care of the individual patient, become a matter of government control and regulation: In other words, the beginning of state medicine. Furthermore, it was suggested that the meeting would be a packed meeting. From the current newspaper reports, it seems to be that such is the case. When a man like Doctor Cabot makes the ridiculous statement that thousands of young physicians are starving; then implies that the bulk of the lower economic third of the population is not receiving medical care, and then has these wild statements enthusiastically applauded and almost cheered, it is apparent that the meeting is not going to be judicial in its attitude. Such statements are reckless and unproved. If there are thousands of young doctors unable to make a living in this country, we we would like to know where they are. Certainly they are not in this section.

Of the main recommendations of the committee, the first has to do with giving large sums of money to eradicate tuberculosis, venereal disease, malaria and what not. Enough money has been poured out by the government to prevent disease in the last two or three years to do just this, and it is doubtful if any more huge sums are needed to intensify this campaign. Money cannot do everything, and it is absurd to think that it can. The committee, in the second recommendation, urged extension of hospital facilities by 360,000 beds. This, also, seems like useless and needless waste. The hospital beds in this country are not full now, and, if there is in any community insufficient hospital facilities to take care of the indigent, we would like to know where it is. As a matter of fact, the largest and best of hospitals in this country have to do with the care of the indigent. The third recommendation, to give grants to the state to care for the one-third of the population that is presumed to be receiving inadequate medical services, is also subject to severe criticism. We in Louisiana know that our state hospitals have taken care of the indigent adequately and fully; that additional provisions are being made when and where they are needed, and that, as a matter of fact, the poor man obtains most excellent medical services.

It is our firm belief that the figures on which are based the various statements made at this meeting are incorrect or are wrongly interpreted. Certainly they are not in accord with those advanced by the American Medical Association. As indicative of the passionately appealing statements that have been made is one to the effect that 1600 counties in the United States are without hospital facilities. Of course that is so. There are many parishes in Louisiana without hospitals, but they are sparsely settled and usually the people of that parish are close to another parish which does have hospital facilities so that there is no real need for a hospital in that community. As a matter of fact, there are less than 2,000,000 people in the United States as far away from a hospital as thirty miles, and these people are in communities of very small size.

We agree heartily with Doctor Abell who says that to set up a centrally controlled medical service plan suitable for varying conditions that exist in the states, counties and cities of the country is most impractical. We are definitely of the opinion that all of these health matters are primarily the function of the state or county and not of the Federal Government. Furthermore, we believe unreservedly that this agitation for federal control of the health of the nation has a decided political slant. It seems like another one of the ill-advised and unnecessary and premature social dreams of the new dealers that will appeal to the voters. There will be wasted a tremendous amount of money, which can never be recovered and will be gone forever. The health scheme promulgated without thorough study and factual findings will come first to a halting ineffectiveness and eventually to a moribund conclusion.

## A TEMPLE FOR REED

It is very laudable to memorialize heroic characters. Devoted children do so, and give expression of their inner self by erecting monuments in memory of dear ones. They sing

songs of praise, sustaining strains, to reach towering spires, and labor to have the echoes of their devotion continue to resound throughout the centuries. Bravery is enshrined in our hearts and there is naturally a nameless something that impels us to record noble action. Having been edified by our forebears, we in turn should urge our children to equal devotion until time is no more.

Walter Reed, James Carroll, Aristide Agramonte and Jesse W. Lazear were heroic men. Their memory should be kept sacred and tower the pinnacles of this great city. They labored and fought for humanity, for the lives of citizens of cities, state and a nation. They did not falter and crossed the river unhesitatingly. New Orleans shall never forget.

Reed passed away on the white wings of immortality within a year of his accomplishments. Lazear gave up his life for his fellow men. The four men should be cited for unexampled valor. With marked felicity the location for their monument should be chosen, and given a position within the area where the members of the medical profession congregate. What could be more praiseworthy than to enshrine them in a temple. Their discovery meant the rebirth of this city, and the salvation of a large section of the continent. They are entitled to the highest of honors. Hygeia, the goddess of health, would welcome them, Aesculapius, the father of medicine, would give approval and the world at large would be moved without fear of Apollo's thunderbolt. The shining columns of such a temple would reflex the action of the heart for ages.

The Reed Memorial Committee of the Louisiana State Medical Society, under the chairmanship of Dr. A. E. Fossier, has labored for some fifteen years to accomplish this dream, and now comes the realization. This year will witness the erection of a monument telling the nation of a true and just devotion. All praise to him who would persevere when meeting obstacles to record for history the deeds of great men.

D.

# HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

## SHREVEPORT CHARITY HOSPITAL

**After dinner in the hospital dining room, the staff meeting was opened in the Assembly room at 8:00 p.m. on June 21, 1938, with Dr. Sanders presiding.**

**Following the reading of the minutes, which were duly approved as read, the Scientific Program was turned over to Dr. M. D. Hargrove, who presented four cases of digitalis poisoning.**

### DIGITALIS POISONING

**The first patient had massive doses of digitalis prior to hospitalization and entered the hospital with marked nausea and vomiting, ventricular tachycardia, visual disturbance, and cardiac distress. The cause of her original cardiac damage was probably toxic. Electrocardiographic tracings showed digitalis poisoning. After some apparent improvement, following the discontinuation of digitalis, the patient died of ventricular fibrillation.**

**The second case had rheumatic heart disease with mitral insufficiency. The patient received digitalis 1½ grains t. i. d. for a total of 54 grains, producing a two to one block. Electrocardiographic tracings followed throughout, showed return to normal after discontinuing the drug.**

**The third case presented had syphilitic aortitis and under digitalis developed auricular fibrillation.**

**The fourth case had rheumatic heart disease with A-V dissociation due to digitalis.**

**Discussion was by Drs. Sanders, Cassity, Sanderson, and Boyd.**

**William M. Hall, M. D.,**

## HOTEL DIEU

### New Orleans

**The regular monthly meeting of the Staff of Hotel Dieu was held in the Nurses' Lecture Room of Hotel Dieu on Monday, June 20, 1938. The meeting was called to order by the President, Dr. A. D. Mouledous, and with the Secretary, Dr. C. E. Gorman, at the desk.**

**The Scientific Program consisted of a Clinico-Pathologic Conference.**

***Dr. John Couret*** **presented a case report with autopsy findings and lantern slide demonstration of metastatic melanomata in the liver, adrenal, pancreas and heart. The primary site was probably in the right eye which had been removed twelve years previously.**

***Dr. C. E. Gorman*** **presented a case report of a 57 year old white woman who was seen for the first time March 22, 1938. At this time she presented a history of beginning to feel badly early January 1938. This was just a generalized weakness and malaise. In the early part of February**

she noticed that her right extremity began to get stiff and was somewhat weaker than the left. This progressed gradually until generalized paralysis of the right side was noticed on March 10, 1938. Since this paralysis was noted, her speech also became affected, was quite slow and slurring and with a great deal of difficulty in pronouncing words; also a dysphagia was present. On admission blood pressure was 120/70, respiration 25, pulse 90, temperature 98.2. On physical examination it was noted that her right pupil was dilated and did not react to light or accommodation. Pupils were round and regular but unequal. Patient could not protrude tongue, spoke with a great deal of difficulty, and presented a great deal of difficulty on swallowing. The thoracic cavity on deep inspiration showed marked lagging on the right side. There was a spastic paralysis of the entire right side with a positive Babinski on the right. Spinal fluid survey and spinal puncture were grossly negative. Blood picture was negative except for slight anemia; blood chemistry normal. P. S. P. normal; urinalysis normal. Roentgen ray March 24, 1938 showed skull negative and sella turcica normal.

A diagnosis was made of cerebral neoplasm and Dr. Fenno was asked to see patient in consultation March 26, 1938. It was his opinion that the diagnosis was also cerebral neoplasm and the patient was treated accordingly. She was given supportive treatment and gradually declined and expired on April 11, 1938.

An autopsy was performed by Dr. M. Couret, which showed the following: The inner and outer plates of the skull were negative. The dura mater, pacchionian granulations and sinuses were negative. A slight flattening of the cerebral convolutions and narrowing of the sulci were present bilaterally. The blood vessels were mostly injected. At the vertex of the left cerebral hemisphere in the precentral region of the frontal lobe there was a slightly depressed area about 1½ cm. in diameter which was somewhat soft in consistency. This region also showed a number of small tortuous distended vessels on the surface. Otherwise the external surface of the brain showed nothing remarkable grossly. The vessels at the base were only slightly sclerosed. The ventricular system was of normal size and no occlusion of any of its passages found. The choroid plexus in both lateral ventricles were somewhat swollen and red in color. Section of the left cerebral hemisphere showed immediately beneath the abnormal area previously described on the external surface, a globular mass of tissue about 6 cm. in its greater diameter. This tissue was poorly demarcated from the surrounding tissue although there is a distinct zone of increased density palpable at its periphery. The mass extended above and somewhat lateral to the roof of the ventricle. Its cut surface, particularly the central portion, was extremely soft in consistency, grayish red to yellowish red in color, and granular and it presented a few minute cystic cavities in the center. Several small engorged tortuous vessels were seen on the cut surfaces nearer the periphery. The remainder of the brain showed nothing remarkable grossly. Diagnosis: Glioma; astrocytoma.

*Dr. John Signorelli* discussed birth injuries with special reference to intracranial hemorrhages. His talk was supplemented by a film demonstrating the method of producing such injuries, the pathology, and treatment with special reference to the prevention of remote physical and mental deformities.

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## J. T. NIX CLINIC

NEW ORLEANS

At a meeting held in July, Dr. C. E. Gorman presented the following paper:

### EMESIS GRAVIDARUM

Vomiting of pregnancy has been well named in calling it the "disease of theories." In reviewing the literature one may find many hypotheses regarding its etiology. None of them is well founded. There is no definite or absolute explanation for this exasperating condition. In this paper I will deal with mild and moderate cases of vomiting rather than with those coming under the classification of hyperemesis.

Inquiring of the sick in general it is learned that the majority give vomiting as the most disagreeable event that befalls them. This is especially true of the operative patient who will say, "I did not mind the operation—but the postoperative vomiting—!" Thus, in handling obstetrical cases we should have more compassion and pity for the gravid individual who unfortunatey develops emesis.

Andrews[1], in presenting a discussion of the etiology, refers to the stereotyped classification, namely: neurotic, toxemic and reflex. He expresses his opinion that such a subdivision is needless since in every case all these factors can be found. Yet, it is true that in each case, one of these three factors will be paramount. It is my opinion that this classification not only should be made but must be enlarged to include avitaminosis, fetal toxemia, liver toxemia, kidney dysfunctions, hypoglycemia, glycogen deficiency and electrolytic salts (mainly sodium chloride) deficiency. Then must be added metabolic and endocrine upsets as well as auto-intoxication from the intestinal tract.

One must never view these cases so lightly as to ignore them. Often vomiting is due to some definite organic pathology. In this class we include those cases with intercurrent gallbladder attacks, either stones or infection. Probably the most dangerous is appendicitis. The most frequent is pyelitis.

The psychic element concerned in the vomiting of pregnancy is certainly definite. Hicks, Drennan and Holman[2] very aptly summarized the psychologic background of certain cases. Some women who have become pregnant against their wishes have a natural abhorrence of this condition. Definitely these women develop vomiting because of self pity. Again we have the individual who has been married for some number of years, is desirous of children, becomes pregnant. From then on she develops vomiting. This happens because she, as well as many other women believe that "morning sickness" must accompany a pregnancy. Another of this class is the woman desirous of showing her husband how much she must suffer to have a baby.

Any of the above causes could be the etiologic factor concerned in a particular case. Once the vomiting begins a definite fluid loss develops as well as a marked loss of the electrolytic salts. These lead up to a dehydration and a disturbance of the acid-alkali balance. In addition, there is an actual avitaminosis which develops due to the lack of proper food intake. Thus a vicious circle has developed. Definite proof of the psychologic or neurotic element in emesis gravidarum can be found in the J. T. Nix files. Mr. P. who is a successful business man, is very stable in character. His wife became pregnant. Shortly afterwards she developed vomiting. In sympathy with her he actually suffered as much nausea and vomiting as his wife.

After much deliberation and the perusal of many articles concerning the etiology of emesis gravidarum, I have determined that no specific etiology can be named. There are numberless causative or exciting factors which kindle the fire. These merely start the cycle of vomiting and should be considered as factors and not as a true or specific etiology. If there is such it remains to be discovered.

The treatment herein discussed does not include methods to control hyperemesis. Such patients with protracted vomiting should be hospitalized. I will confine this discussion to those methods which should be used in treating the ambulatory or mild cases. First and foremost, it must be remembered that the treatment is entirely symptomatic. The nausea and vomiting must be controlled. A careful history may help to analyze the patient and place her in the proper category. A large percentage of these patients will be nervous and apprehensive. The majority are under the impression that they must vomit during the pregnancy. Any number, not vomiting, will ask, "When do I start vomiting?" This type definitely belongs to the neurotic group. A simple, inexpensive and yet a very effective remedy for this class is a combination of luminal, grain one-fourth with elixir lactopepsin as a vehicle. This is pleasing to the patient's taste, helps digestion and adds just sufficient sedation to calm the nerves.

Another simple mixure which likewise is empirical is equal parts of gastron and elixir lactopepsin. This is administered in two dram doses after each meal. The pepsin has enough sting and soothing odor to assist materially from the neurotic viewpoint. In addition the gastron and pepsin aid the digestion sufficiently to produce beneficial results. This combination could also be fortified by a mild sedative.

That proper elimination is essential is an undisputed fact. Those patients suffering from a certain amount of auto-intoxication, sluggish or improper peristalsis, develop emesis. This group has responded very nicely to a combination of magnesium oxide heavy, and bismuth subcarbonate. These are mixed in powder form in the ratio of one to three. It is best given after meals in milk, the average dosage being one dram. In the event that these simple methods fail we next use parenteral injections. The old standard of these is the corpus luteum extract which is given one c.c. daily. Usually six to twelve of these must be given. During recent months Armour Company has placed on the market a suprarenal cortex 250 per cent. This has been used in cases not responding to simple methods. I have had good results with both of these parenteral injections. It is good to note at this time that one patient, Mrs. K., had received eighteen doses of corpus luteum extract and continued to vomit. She was given betaxin tablets morning and night. Her vomiting was controlled and as she expressed it she had become "entirely dependent on the tablets." She received one morning and night. Her appetite improved and she is progressing nicely. It is absolutely certain that these patients with vomiting, with poor appetite, and limited food intake become definite cases of avitaminosis. Some of these cases can be cured by a gastric lavage. For this the well known and used Levin nasoduodenal tube is used.

Zener[3] reported failure with adrenal cortex solution administered parenterally. He suggested the water-soluble extract of whole ovary known as agomensin. In addition to these parenteral injections he administered hydrionic tablets in order to restore the electrolytes. As additional therapy he gives an erythema dose of ultra-violet irradiation, especially to the epigastrium, every second day.

In contradistinction to Zener's report, Freeman, Melick, and McClusky[4] report good results with suprarenal cortex. They summarize the results of 78 cases with only two failures.

Kassebohm and Schreiber[5] express the belief that prenatal care is not undertaken early enough to prevent cases of hyperemesis. This is in perfect harmony with our thoughts. If the prenatal care is started early enough, that is when the vomiting is in a controllable stage, a great reduction in the

number of severe cases would be accomplished.

McGowan, Baker, Torrie and Lee[6] reported a very interesting series of cases. They had tried sedation, intravenous glucose and many other methods; all with failure. They propounded the theory that it was probably due to a spasm of the second portion of the duodenum with a decrease in the tone of the stomach. They tried amyl nitrite and glyceryl trinitrate with satisfactory results. Consequently they recommend the use of glyceryl trinitrate, 0.01 grain placed under the tongue ten minutes prior to eating.

SUMMARY

Having reviewed the literature in regard to etiology I have concluded that no specific etiology can be mentioned. Any case might belong to one of the many groups. It is very difficult to classify a certain few of these cases. A careful history and general survey of the patient's nervous stability are great aids. As for the treatment it still remains empirical and will necessarily continue to be so until a more specific etiology is uncovered. Nevertheless, many of these cases are curable. Let us proclaim the faith of Paracelsus[7], "Let no doctor declare this disease is incurable."

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## HUTCHINSON MEMORIAL CLINIC

Scientific Session conducted by the Department of Gynecology, Dr. C. G. Collins presiding:

*Embryology of the Ovary* (Dr. Harold Cummins, Department of Anatomy): The ovary originates in close association with the mesonephros. Developed in the period of the fifth through the ninth weeks, each mesonephros consists of a mass of coiled tubules, forming an elongated bolster-like swelling on the dorsal body wall, the urogenital fold or Wolffian body. Early in its formation this mass presents a linear division into a lateral portion, the mesonephric fold, and a medial portion, the genital fold. The latter, the indifferent sex gland or gonad, is devoid of any sign indicating its future differentiation into either ovary or testis. Its early growth is due mainly to a proliferation of the peritoneal epithelium, which sends ingrowths (forming the inner epithelial mass) into the mesenchyme of the genital fold. The originally elongated genital fold is gradually rendered shorter and more compact, and at the same time its broad suspension from the Wolffian body is progressively constricted into mesenterial structure. It is important to note that the suprarenal gland is being differentiated in mesoderm adjacent to that of the primitive gonad, thus offering opportunity for inclusion of its elements in what is to be the hilar region of the ovary, mesovarium and broad ligament.

At about six weeks, if the embryo is male, the gonad presents signs of sex differentiation; in the case of the female the primitive characters are retained for a week or more longer. The early ovary is made up of a framework of mesoderm enlodging the inner epithelial mass and covered by peritoneal epithelium. The epithelial mass is composed of indifferent cells and primordial germ cells, the latter having been earlier incorporated into the interior as migrants from the remote intestinal epithelium. By the eleventh week the cell mass extends into the mesovarium (rete ovarii), and the ovary becomes less dense centrally; this less dense region, the medulla, is bordered by the compact cortex which in turn is covered by the germinal epithelium.

Further changes involve growths of connective tissue (mesoderm) and vessels from the hilus peripherally; at the margin of the cortex these expand and unite to form the tunica albuginea. Indifferent cells of the inner cell mass are chiefly transformed into sex cells. The sex cells of the medulla disintegrate, as may all the earlier ones in the cortex, but there is a contribution to the cortex of sex cells from the germinal epithelium; indifferent cells are applied around them as primordial follicles (to become ultimately granulosa cells) and in the future follicular development the adjoining stroma differentiates into theca cells. Postnatally, and even in the adult, such contributions from the germinal epithelium may continue. Of some hundreds of thousands of sex cells differentiated only several hundreds are destined to be liberated from the ovary, and present evidence indicates that these are all of later origin from the germinal epithelium.

Canalization of the rete ovarii does not occur until late in gestation. It is associated with a group of vestigial mesonephric tubules, the epoophoron.

By its position the developing ovary is susceptible to the inclusion of extraneous elements (adrenal and vestigial kidney structures) which later may give rise to neoplasms. The intense proliferation of truly ovarian elements, with constant degeneration and replacement of those earlier formed, predisposes to the occasional retention of progenitors of neoplasms, notably of granulosa and thecal na-

ture. The transformation of the ovary from an originally indifferent state, through phases which are akin to the early history of the testis, is associated with possibilities of aberrant development of features which are not typically ovarian and their retention as sources of new growths (e. g., arrhenoblastoma; disgerminoma).

*Pathology of Ovarian Tumors Arising from Embryologic Rests* (Dr. William H. Harris, Department of Pathology): It occurs to me that an emphasis of the underlying principles together with an allusion to the salient cytology of this group, especially of the androgenic varieties should suffice for my allotment. The cytologic aspect can be best discussed in connection with the slide illustrations. Through Dr. Schattenberg, I have been fortunate in having sections from this group of tumors afforded us by the clinical material of Dr. Miller, Dr. Collins and other members of the gynecologic staff, together with a section of disgerminoma from the case of Dr. Storck, together with certain exchange slides from the laboratories elsewhere. We will reserve the discussion and demonstration of these with micro-projection at the conclusion of the general discussion of this topic.

While, for a long time, the interesting endocrine effects upon the host have been evidenced through tumors of the pituitary, thyroid, thymus, adrenal cortex, islands of Langerhans of the pancreas and others, it is only in recent years that those of the ovarian type have been emphasized. Where, in the human body, has nature demonstrated any more intricate hook-up of broadcasting stations than has existed between the ovarian and endometrial waves in symphony with the pituitary adrenal cortex and other endocrinological stations? The intricacies of the host reaction to prolan A and B, cortin, dihydro-esterone, progesteron, representing in great part a sterol nucleus which sterols also include the androsterone and dihydroandrosterone and testerone of the testicular hormone, are almost overwhelming.

Naturally, the masculinizing and feminizing type of tumors attract the greatest interest of this group. However, those of the neuter character, namely the Brenner's tumor and disgerminoma, must be concurrently considered. While the latter is recognized as springing from the neutral cells of the germinal epithelium, nevertheless, in those cases of hypoplastic genitalia, improved subsequently to the tumor removal some degree of endocrine factor present must be considered. Fauvet's statistics have shown more than half of such instances occurring in normal women.

Added to Dr. Cummins' interesting demonstration of the basic embryology of these structures, we are confronted at once with the substantial application of Conheim's interpretation of cell rests in the causation or origin of neoplasia.

In brief, Conheim asserted that "tumors develop from masses of simple or complex tissues misplaced during embryonal development, or that they arise from small groups of superfluous cells which have retained their embryonal characters even though not necessarily misplaced." From a review of the embryology of the ovary and the final maturation of this structure, one cannot help but be struck with the great accuracy of Conheim's long standing hypothesis and its very practical application particularly to the ovary. When one contemplates in the embryo, an indeterminate or undifferentiated genital gland or anlage perched on each side, in close embryonal relationship to a mesonephros or Wolffian body and to the fetal Wolffian and Mullerian ducts, all eventuating in adult sex differentation with rudimentary homologues and vestiges, one cannot help but readily discern the extensive field of application of Conheim's misplaced rest theory. As far as superfluous cell groups as a cause, such could not be better represented than by the one-half million or more of Graafian follicles that are estimated to be formed from the germinal coat and practically all dissipated during a lifetime.

With the aid of micro-projector, slides or disgerminoma, its related tumor semenoma, the two types of Brenner's tumor (solid and cystic) arrhenoblastoma, adrenal rest tumor, its related tumors hypernephromata of adrenal cortex and of the kidney, luteoma, granulosa cell, theca cell, were demonstrated and discussed.

In conclusion, might I not stress: First, the very tangible and practical application of Conheim's theory of tumor formation in connection with the neoplasia of this interesting group; second, that simple tumors of these structures and the affectation of the human economy by the hormone producing neoplasia of this group have their counterparts in many other organs of the body, for example, the simple fetal adenoma of the thyroid as contrasted with the thyrotoxic type—the simple hypernephroma of the kidney as compared to the rarer adrenal cortex tumor with its masculinizing hypertension and nephrosclerosis production—the simple adenoma or carcinoma of the pancreas and the hyperinsulinizing adenomas of the islands of Langerhans. These and others show the simplicity of some and the exaggerated hormone action or other endocrine disturbances of others; third, again we must be conscious of the small adenomas and hyperplasias of such organs as the adrenal cortex and pituitary body that may in reality be responsible for the endocrinological disturbance rather than some simple tumor of the ovary that has been found; fourth, and last, that our usual or basic types of ovarian tumors should be studied most carefully to ascertain if any latent cell origin may be held accountable. On the other hand, a desire for the more interesting must not cause us to bor-

row on our imagination for the purpose of finding of such. In other words, our emotional phase must not govern our careful fact-finding judgment in connection with the final diagnosis.

*Dermoids and Teratomas of the Ovary* (Dr. C. G. Johnson, Department of Gynecology): In the past, dermoids and teratomas were usually spoken of as the most interesting tumors of the ovary but they have been put in the background with the recent interest in those that, though rare, have definite endocrine influence on the patient. The dermoid and the teratoma have been likened somewhat to the fibroma and sarcoma and have been called benign and malignant dermoids. The great difference between these tumors is that in the teratoma each layer reproduces its own kind indiscriminately and often as whole organs and is in a rapid state of cellular division and invasion from its beginning. Dermoids are adult tumors, seldom if ever malignant, growing slowly. Teratomas are soon recognized after activity sets in. Of one thousand ovarian tumors reported from a Budapest clinic in 1937, 158 were dermoids and nine were teratomas; 138 of the dermoids were unilateral.

Clinically, the diagnosis of dermoids is very seldom made preoperatively, because they are not associated with definite clinical findings, such as are seen in a disturbance of normal ovarian endocrine function produced by a granulosa cell tumor or an arrhenoblastoma. They are usually diagnosed merely as ovarian tumors, cystic or solid in nature. At operation it is usually possible to recognize these tumors on their gross appearance. Dermoids are almost always unilateral and vary in size from 1 cm. in diameter to that of a man's head. The capsule is smooth and rounded and presents a characteristic milky white appearance. The inner layer has a smooth glistening skin surface, and interspersed are elevated islands, the surface being pitted by many sweat and sebaceous apertures. Hair grows from these islands and teeth lie imbedded in the tissue. Bone is frequently found in these tumors. Dermoids very often become infected and undergo abscess formation.

Teratomas may vary in size from a hen's egg to huge dimensions. They are usually solid in nature, comprising parts of several normal organs of the body. This reproduction of organs often is complete but generally other structures are present without any attempt at orderly arrangement. If these growths contain abundant thyroid tissue they are designated as "ovarian struma." These tumors are highly maligant and the outcome is generally fatal.

The treatment of dermoids is removal by surgery. Prompt surgery is required whenever a teratoma is suspected. Following its removal the long bones and lungs should be roentgen rayed and if metastases are found, they should be subjected to deep-ray therapy, which, however, is usually only palliative.

*Disgerminomas and Brenner Cell Tumors* (Dr. J. C. Weed, Department of Gynecology): The so-called Brenner tumor of the ovary is a rare tumor of disputed histogenesis, benign in nature, consisting of fibrous and epithelial elements and causing no pathognomonic symptoms. It is known also by the names "oophoroma folliculase," and "fibro-epithelioma mucinum benignum." Brenner is credited with the first description of this tumor in 1907. Orthman described a tumor in 1899 which corresponds to Brenner's in description, but the name of Brenner has remained in association with this tumor. Two types are found clinically: (1) solid tumor and (2) a cystoma usually of the pseudo-mucinous type with small solid nodules in the cyst wall. Small cystic areas may be present in either, and the tumor, especially the solid variety, while usually a few centimeters in diameter, may be as large as a child's head. Very few bilateral occurrences have been reported. The tumor is yellowish white in color and rarely shows evidence of calcification. About two-thirds of the tumor is fibrous tissue having a tendency toward hyaline degenerative changes.

The clinical picture presented by Brenner's tumors is never such that a preoperative diagnosis can be made. The most prominent symptom is pressure sensation in the pelvis which might be attributed to any pelvic tumor. The tumor is found in women of all ages, the youngest reported case being nine years of age, the oldest seventy-three, but 60 per cent of the cases are post-menopausal. Of 76 cases reported in the literature only three were bilateral, one of which had on one side a solid tumor, Type I, on the other, the pseudo-mucinous, cystic type, Type II. No hormonal changes have been noted in a series of studied cases, and no uterine changes are found at operation. Menses as a rule show no irregularity. The concensus is that the tumor is benign in nature, since invasive characteristics and mitoses are absent. No recurrence follows operative removal, which in most cases is easily performed. However, Bland and Goldstein report one death from metastases postoperatively.

The treatment is operative removal of the affected side or sides. In general, the prognosis is good.

The disgerminoma is a rare ovarian tumor, arising from cell rests of undifferentiated sex cells of the primordial gonad, malignant in nature, but not productive of pathognomonic symptoms. Before Meyer's investigation of ovarian tumors, this tumor was variously called seminoma of the ovary, embryonal carcinoma, endothelioma and alveola carcinoma. The similarity in origin and structure to the testicular tumor has been demonstrated. Disgerminoma causes no pathognomonic symptoms.

Because of its origin from indifferent sex cells it produces no hormonal effect on the individual, thereby causing no change in the primary or secondary sexual characteristics. It is, however, frequently associated with subnormal sexual development, hermaphrodism, pseudo-hermaphrodism and cryptorchidism in the male. About 50 per cent, however, are found in ostensibly normal women who can, and have, borne children. The tumor is most frequently found in young women in the second and third decades of life, but has been found in middle-aged adults. In males, the age incidence is slightly higher.

The diagnosis of disgerminoma is seldom made preoperatively, although its presence should be suspected when a solid ovarian tumor creating no change in menstruation and secondary sex characters is found. The tumor is usually unilateral, varying in size from a few centimeters to a mass filling the abdomen. The tumor is usually nodular but encased in a dense capsule imparting a doughy or rubbery sensation to the touch. The cut surface is yellowish gray with or without areas of hemorrhage. In advanced cases, the capsule may be perforated with seeding of the entire peritoneal cavity with secondary growths. Bilateral disgerminomata are reported in 20 per cent of the cases, one of which showed a microscopic tumor in a grossly normal ovary.

Disgerminoma is a malignant tumor without question, but comparatively less malignant than granulosa cell tumors and more malignant than arrhenoblastomas. The prognosis is good, however, if the capsule is intact as it is in about sixty per cent of the cases. The decision as to the best method of treatment is a difficult one because these patients are young as a rule. The radical operation, bilateral salpingoophorectomy and supravaginal hysterectomy offers the best method and the safest in regard to recurrence. If conservative unilateral oophorectomy is selected, careful inspection of the opposite side should be made, although this will not exclude microscopic tumor elements. Many patients have become pregnant following this procedure. However, it must be remembered that many people are sterile from subnormal development both before and after conservative operation.

When the capsule is perforated, extension takes place as in the true ovarian carcinoma by seeding and by the lymphatic stream. Radical operation, when possible, followed by postoperative irradiation should be instituted. The value of postoperative irradiation is disputed but some tumors appear to be radiosensitive. Removal of the tumor in no way changes the individual's sexual make-up.

*Case Report of Adrenal Cell Rest Tumor* (Dr. R. E. Moor, Department of Gynecology): The patient, a white female, aged 27, complained of excruciating headaches with cessation of her menstruation one year ago. Seven years ago, following the birth of her second child, she noticed that her voice was becoming deeper. This gradually increased during the years that followed. At that time she also began to have changes in her menstrual cycle with irregularity of periods, prolonged bleeding and severe headaches and backache. The headaches and backache disappeared in about one year. She became pregnant and had a criminal abortion done at approximately six weeks. She bled considerably and had a high fever for four days. The menstrual irregularity continued until one year ago when amenorrhea appeared. With this last period of amenorrhea she again had headaches and backaches. These headaches were so severe three or four days each month that she could not get any relief and would not even try to sleep. During these seven years she has gradually noticed an increase in her body hairiness, breast atrophy, huskiness of her voice, none of which worried her. Only her headaches gave her much concern. On April 14, 1937, a Wassermann was positive and since that time she has received antiluetic treatment.

The patient has been married nine years; had three pregnancies, a girl of 8 years, a boy of 7 years, abortion four years ago. Libido has neither increased nor decreased in nine years. Physical examination disclosed a blood pressure of 145/90, a moderately coarse voice, a heavy growth of black hair on upper lip and less abundant growth on lower lip, an anterior cervical adenopathy; atrophic, flat breasts, with large nipples and hair around the nipple; abdominal striae; a clitoris enlarged three or four times, frequently becoming erected; a bluish discoloration of the vagina, rectocele, relaxed perineum, and a badly lacerated cervix with whitish discharge; a uterus normal in size and shape, soft, freely movable and not tender. In the left adnexal region there was a mass about 7 cm. in diameter, firm and freely movable. The extremities disclosed a heavy growth of hair. Lateral view of sella turcica, roentgen-ray of chest, plain KUB skiagram, blood picture, blood chemistry, Friedman and Wassermann tests and the sedimentation rate were all negative or normal. A clinical diagnosis of arrhenoblastoma of left ovary was made. On February 17, 1938, a left salpingo-oophorectomy and appendectomy were performed. A pathologic diagnosis of adrenal cell rest tumor was made on the removed tissues.

On July 3, 1938, she stated she had had no severe headaches since the operation. She has menstruated four times, normal in every way. Her backache has gone. Her breasts are getting larger. Her voice has lost its deepness. The hair on her face and legs is less conspicuous. The hair around her nipples is unchanged. She is very happy and has no complaint.

*Granulosa Cell Tumors* (Dr. E. H. Countiss, Department of Gynecology): Of the ovarian tumors having an endocrine influence, the granulosa cell type is perhaps the most interesting by virtue of the fact that it may so closely mimic a normally functioning ovary, causing menstruation and development of secondary sex characteristics before puberty or a return of the menses after the menopause. The maximal incidence is between the ages of 45 and 54 years. In a series of 1,728 ovarian tumors, 2.11 per cent were found to be of the granulosa variety. The majority of the 250 reported cases are unilateral and though they may become malignant, simple removal of the involved ovary seems sufficient if there is no evidence of spread.

Miss C. D., aged 36 years, complained of "almost continuous menstruation." Menses began at the age of 12, were of 28 day type, lasting six or seven day, until she was 26 years of age. For the following nine years, the periods occurred every three or four months, were scanty and lasted only two days. Then there developed a period of irregular bleeding not controlled by injections of theelin, antuitrin and progynon. At this time she developed a pain in the right lower quadrant radiating down the thigh. Menstruation ceased for three months and then returned, continuing with a progressive increase in pain. General physical examination revealed no abnormalities. The uterus was enlarged to the size of a six weeks' pregnancy. A preoperative diagnosis of endometrial hyperplasia and right ovarian cyst was made.

A curettage, a right salpingo-oophorectomy and an appendectomy were performed. The left ovary appeared grossly normal except for the fact that there were no follicles or evidences of recent corpora lutea. The right ovary measured 4 x 3 x 3 cm., was firm and its cut surface appeared distinctly granular, having somewhat the appearance of a hob-nail liver. The color was grayish pink. A gross diagnosis of granulosa cell tumor and hyperplasia of the endometrium was substantiated by the microscopic study.

Following operation, menstruation occurred in one month and lasted three weeks, when injections of anterior pituitary-like hormone were given. The following menstruations were normal. The patient married in three months and two months later an examination revealed a normal intrauterine pregnancy.

The irregularity of menstruation with periods of menorrhagia and amenorrhea may be explained on the basis of the endometrial hyperplasia which in turn is due to the excessive estrin secretion of the tumor.

There have been two previous cases of pregnancy following removal of granulosa tumors reported in the literature and several others notably associated with sterility.

*Theca Cell Tumors of the Ovary* (Dr. C. G. Collins, Department of Gynecology): It has been my good fortune to encounter two theca cell tumors of the ovary during the past seven months. Both patients gave histories of amenorrhea, varying from six to eight months, followed by menorrhagia and then amenorrhea again. There was no evidence of excessive masculinization or feminization in either patient. Physical examination was negative except for the presence of a tumor on the right side in case one, and on the left side in case two, of the consistency of a fibroma. At operation, in both patients solid encapsulated tumor of the ovary was found, yellow in color, and on gross section presenting the physical characteristics of fibroma. Following removal of these tumors the patients' menstrual periods have been perfectly normal in character, amount and regularity.

Microscopic section showed these to be theca tumors of the ovary.

These tumors are very easily confused with fibromata undergoing fatty degeneration both in the gross and in microscopic sections. Unless special fat stains are included in the microscopic study, a large number of these tumors will be wrongly diagnosed. The differential point, microscopically, is that in theca cell tumors the fat is both extra- and intracellular, and when examined under polarized light shows the fatty substance to be doubly refractile. These doubly refractile intra- and extracellular bodies are only found in tumors that cause masculinization or feminization of the individual, namely, arrhenoblastoma, granulosa-cell tumor, theca cell tumor, and adrenal cell rest. They are not found in tumors that do not present any sex change or excessive secretion of hormones, such as disgerminoma, Brenner cell tumor, fibroma, sarcoma, dermoid, or other solid tumors of the ovary. This doubly refractile fat is a cholesterol or cholesterol ester. Since there is a close association between cholesterol and androsterone, and the female sex hormone, it does not take much stretch of the imagination to realize why cells containing these substances are found in tumors that produce sexual hyperplasia, hypoplasia or reversion from one type to the other.

There are only 23 reported in the literature, two of which have been found to be malignant. Therefore, it is our belief that these tumors should be treated with the utmost conservatism, removal of the involved ovary being all that is necessary to produce a cure.

# TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of July, besides the regular meeting of the Board of Directors, the Society held a joint scientific and second quarterly executive meeting July 11. The following program was presented:

A Study of the Thrombocyte in Allergy.
By: ..... Dr. Narcisse F. Thiberge.
Discussed by Dr. Maurice Couret, followed by Dr. Morris Shushan.

Cyclopropane—Advantages and Disadvantages.
By: ..... Dr. Merrill C. Beck.
Discussed by Dr. Ansel M. Caine.

Because of the small attendance at the meeting, only the reports of the Secretary and Treasurer were read. The Society then adjourned for summer recess until October.

A special meeting of the Board of Directors was called July 18 to consider a report of a special committee which had been working with the Department of Public Welfare of New Orleans. It was felt the contents of this report were of such importance that a special meeting of the general membership was called for July 25 to discuss this matter.

## NEWS ITEMS

The following New Orleans doctors received appointments on various committees of the American Medical Association: Dr. Elizabeth Bass, regional director of the American Medical Women's Association for Alabama, Kentucky, Louisiana, and Tennessee; Dr. Guy A. Caldwell was named to the Section on Orthopedic Surgery; Dr. Urban Maes was appointed on the Advisory Committee of Scientific Exhibits; and Dr. John H. Musser, member of the Council on Medical Education and Hospitals.

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At the meeting of the Fifth District Medical Society, June 10, in Monroe, the scientific program included papers by the following: Dr. E. A. Socola, "Banana and Banana Powder Therapy in the Diarrheal Diseases of Infants and Children"; Dr. Emmett L. Irwin, "Concerning the Gallbladder," and Dr. Thomas B. Sellers on "Office Gynecology."

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Guest speakers at the meeting of the Third District Medical Society at Lafayette, June 27, were: Dr. Ambrose Storck who spoke on "Infections of the Foot and Leg," and Dr. Roy H. Turner who spoke on "Recent Advances in Vitamin Therapy."

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Drs. Edgar Burns, R. L. Gordon, Robert F. Sharp and H. W. E. Walther attended the meeting of the American Urological Association, June 27-30, in Quebec, Canada.

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Dr. Dean H. Echols, has been made a member of the board of directors of the University of Michigan Club of New Orleans.

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Dr. Rawley Martin Penick, Jr., has been appointed as Assistant in the Department of Surgery of the School of Medicine of Louisiana State University.

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At the July 6 meeting of the Hutchinson Memorial Clinic staff, Dr. Hilliard E. Miller presided. The symposium was "Ovarian Tumors Arising from Embryologic Rests." On the program were Drs. E. H. Countiss, Conrad G. Collins, William Harris, R. E. Moor, and C. G. Johnson.

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Dr. F. E. LeJeune was elected vice-president of the Oto-rhino-laryngological Society at its recent meeting in New York.

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Dr. Theodore J. Dimitry was guest speaker at the recent meeting of the Carrollton Business Men's Association, when he told of the plans to erect monuments and markers in the city.

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The following doctors gave instruction in the postgraduate clinic recently held at Flint-Goodridge Hospital: Drs. J. N. Ane, John J. Archinard, Edgar Burns, Charles J. Bloom, Isidore Cohn, A. A. Caire, Conrad Collins, B. J. De Laureal, Andrew V. Friedrichs, Peter Graffagnino, Sydney Jacobs, E. L. King, Walter E. Levy, Maxwell E. Lapham, Urban Maes, H. C. Magee, Leon J. Menville, Hilliard E. Miller, J. W. Reddoch, William H. Harris, Robert E. Rougelot, E. Perry Thomas, Earl C. Smith, and E. B. Vickery.

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Dr. Charles Brown Odom has been appointed surgical officer of Charity Hospital. On July 1, about 40 new interns were appointed to the hospital.

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The Eye, Ear, Nose and Throat Hospital has become a member of the New Orleans Hospital Service Association.

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Dr. Lewis A. Golden has been elected to membership in the National Committee for Mental Hygiene.

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The following doctors were elected to membership:

Reinstatement to Active: Drs. Theodore T. Batson, Maurice Campagna, and D. A. Lines.

Active: Drs. Edward B. Faget, James P. Gillaspie, H. Reichard Kahle, Daniel M. Kingsley, Maurice D. Lang, Philip A. Neibergall, Malcolm P. Schwarzenbach.

Associate: Dr. Charles M. Banister.

Intern: Drs. Victor W. Bikales, Jaime Costas-Durieux, Harry Fishbein, Allan M. Goldman, Al-

fred Y. K. Hew, Robert A. Katz, Elmer E. W. Kramer, Irving D. London, Harry L. MacKinnon, Albert A. Maybeno, Ceferino A. Mendez, Sol Neidich, Luis R. Oms, Lloyd H. Patterson, John Rizzolo, Jack S. Shipp, and Walter C. Tumon.

It is with the deepest regret that we report the loss by death of one of our most active members and Past Presidents, Dr. Frederick L. Fenno. Dr. Fenno passed away Wednesday, July 20.

### TREASURER'S REPORT

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| Actual book balance: 5/31/38 | $4,766.26 |
| June credits | 410.39 |
| Total credits | 5,176.65 |
| June expenditures | 745.33 |
| Actual book balance 6/30/38 | $4,431.32 |

### LIBRARIAN'S REPORT

During June, 914 books and journals were circulated from the Library, of which 200 were loaned to students and 714 to doctors. These figures include only titles for home loan. No accurate record can be kept of the great use of books and journals within the Reading Rooms.

Members of the staff during the month have collected material on the following subjects:

Fever therapy in the treatment of corneal ulcers.

Diagnosis of coronary thrombi by electrocardiography.

Prevention of venereal disease in maternity.

Water intoxication.

Aural vertigo.

Dissection of aortic aneurysm.

Gas bacillus infection of the pleural cavity.

Rupture of the pyosalpinx.

The Librarian attended the annual meeting of the Medical Library Association in Boston, June 27-30, as the official representative of this Library and that of the Tulane University School of Medicine. This meeting was the largest in the history of the association, 85 medical libraries in 31 states being represented. More than 120 medical librarians attended the sessions, coming from as far as Oregon, California, Minnesota, Texas, Louisiana, and Canada. Meetings were held in the Boston Medical Library, fourth largest in the country, and the Harvard Medical School Library, with opportunity to visit also the Treadwell Library of the Massachusetts General Hospital and the Boston City Hospital Library. One day of the meeting was devoted to an Institute on Medical Literature with discussions on bibliography, reference books, textbooks and general treatises, periodicals, medical literature of the past, with a demonstration of medieval and Renaissance medical texts, and a lecture on the literature of physiology. In connection with the visit to the Massachusetts General Hospital, the medical librarians were taken to the famous Ether Dome where occurred in 1846 the first public demonstration of the use of ether, and there witnessed a moving picture devised and acted by Boston physicians, depicting this notable event. Miss Marshall was elected a member of the Executive Committee of the association to serve for a term of three years.

A visit was made en route to the Medical Department of the New York State Library in Albany, which is used not only by the medical profession of Albany and the Albany Medical College, but also extends a loan service to the doctors of the entire state. This trip thus afforded opportunity for a visit to five medical libraries, none of which Miss Marshall had ever seen before. A number of new contacts were made which will prove of great value to our Library.

Thirty books were added to the Library during June. Of these 7 were acquired by purchase, 18 by gift, 30 by binding and one from the New Orleans Medical and Surgical Journal. Notation of new titles of recent date are listed below.

#### NEW BOOKS

American Pediatric Society Transactions, 1937.

American Urological Association, Western Branch, Transactions, 1937.

Beckman, Harry: Modern Methods in Treatment, 1938.

Gilbert C. Anderson, M. D.,
Secretary.

## LOUISIANA STATE MEDICAL SOCIETY NEWS

### NEWS ITEMS

Dr. Leon J. Menville, Professor of Radiology, Tulane Medical School, has been elected a correspondent member of the National Academy of Medicine of the Republic of Colombia, South America, in recognition of his international radiologic activities.

Dr. Charles James Bloom, Professor of Pediatrics and Director of the Department in the Graduate School of Medicine of the Louisiana State University Medical Center, addressed the Parents' Club at the Metairie Park Country Day School on June 10, 1938. Dr. Bloom spoke on "Juvenile Tuberculosis."

On June 24, 1938, Dr. Bloom conducted the Pre-School Children's Round-Up at Bay St. Louis, Mississippi. This activity was given under the auspices of the United States Public Health Service.

The annual meeting of the American Association for the Study of Goiter for this year will be held in Washington, D. C., September 12-14, in conjunction with the Third International Goiter Conference.

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The next written examination and review of case histories of Group B applicants by the American Board of Obstetrics and Gynecology, will be held in various cities of the United States and Canada on Saturday, November 5, 1938. Last date for applying is September 5, 1938.

The next general examination for all candidates (Groups A and B) will be held in St. Louis Missouri, in June, 1939, immediately prior to the American Medical Association meeting.

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## REFRESHER COURSE IN PEDIATRICS

Dr. Robert A. Strong, of New Orleans, conducted a Refresher Course in Pediatrics in Shreveport, July 11-15. The course, which consisted of lectures, round table conferences and consultation, was held in the auditorium of the Shreveport Charity Hospital. The Committees on Medical Education and Pediatric Courses of the Louisiana State Medical Society, and the Bureau of Parish Health Administration and the Division of Maternal and Child Health of the Louisiana State Board of Health cordially invite all members of the profession to attend these courses which will be given at designated points in each councilor district.

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## HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending June 18, 147 people died in the City of New Orleans, divided between the two races 100 white and 47 negro. There were 10 death in infants under one year of age. There was a considerable drop for the next week, ending June 25, with 131 deaths, distributed 80 white and 51 negro; 13 deaths were in infants. For the week which came to a close July 2, the number of deaths was approximately the same as the week previous; the same number of negroes died, but four more white people and the total number of deaths for the week was 135. These figures are quite consistent because the next week, that of July 9, there were 133 deaths, divided 76 white and 57 in the negro population. Only 8 deaths occurred in infants under one year of age this week; there were 9 the previous week.

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## INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: For the week ending June 18, the twenty-fourth week of the year, the astounding number of 502 cases of syphilis was reported in the State of Louisiana. Other diseases occurring in double figures shrink to insignificance in comparison to this large figure; these are 55 cases of pneumonia, 54 of whooping cough, 42 of pulmonary tuberculosis, 41 of cancer, 32 of gonorrhea, 18 of malaria and 10 each of diphtheria, influenza, measles and typhoid fever. A case of poliomyelitis was reported from Orleans Parish, but it was imported from an outlying parish. Five of the instances of typhoid fever occurred in New Orleans. For the twenty-fifth week of the year, syphilis again led with 361 cases, followed by 62 cases of pulmonary tuberculosis, 50 of pneumonia, 38 each of malaria and whooping cough, 26 of cancer, 22 of typhoid fever and 20 of gonorrhea. Two cases of poliomyelitis were reported from Caddo and one from East Feliciana. Typhoid fever cases were reported from all over the state, Caddo and Orleans with 5 each leading all other parishes. For the week ending July 2, there were reported 159 cases of syphilis, 43 of whooping cough, 42 of pneumonia, 41 of gonorrhea, 34 of pulmonary tuberculosis and cancer, 21 of malaria and typhoid fever and 11 of measles. There were 3 cases of poliomyelitis reported this week, one each from Catahoula, DeSoto and Terrebonne parishes; a case of typhus fever was reported from Calcasieu. No parish had more than 3 cases of typhoid fever. For the next week which came to a close July 9, syphilis, with 160 cases, led all other diseases as is customary; then followed 66 cases of pneumonia, 46 of whooping cough, 45 of pulmonary tuberculosis, 35 of gonorrhea, 32 of cancer, 15 each of malaria and typhoid fever and 11 of trachoma. Two patients with poliomyelitis were discovered in Jefferson Parish; 1 patient with typhus fever was reported from Calcasieu and 2 from East Baton Rouge. Franklin and Orleans each had 4 cases of typhoid fever, no other parish reporting as many. For the next week 85 cases of syphilis were listed, followed by 68 of whooping cough, 54 of pneumonia, 53 of pulmonary tuberculosis, 31 of cancer, 20 of typhoid fever, 16 of gonorrhea, 13 of malaria, 12 of diphtheria and 11 each of influenza and septic sore throat. In this particular week, Franklin reported 8 cases of typhoid fever and Lafayette 2, no other parish reporting more than one case.

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## JOHN A. HENDRICK, M. D.

(1878-1938)

Dr. John A. Hendrick, of Shreveport, died suddenly on July ninth. A graduate of the University of Nashville, he practiced in Louisiana for many years and was an active member of the parish, district and state medical societies. Dr.

Hendrick was well known and well thought of, both personally and professionally, not only in the state but throughout the South. A dynamic surgeon and a charming gentleman, Dr. Hendrick leaves behind him a host of grateful patients and loyal friends.

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FREDERICK L. FENNO, M. D.
(1895-1938)

The many friends of Dr. Frederick Leonard Fenno were saddened by his sudden death, July 20, at his home in Covington. One of the outstanding practitioners in medicine in Orleans Parish, Doctor Fenno specialized in neuropsychiatry. At the time of his death, he was Professor of Neuropsychiatry at Louisiana State University and Medical Director of the New Orleans Public School System. Last year Doctor Fenno was President of the New Orleans Graduate Medical Assembly and the year preceding that of the Orleans Parish Medical Society. He held many positions of responsibility and trust in organized medicine for which he was always an euthusiastic and active worker.

The doctors of New Orleans and Louisiana lose an important member of their profession; the many friends of Doctor Fenno in his passing lose a trusted and always agreeable associate.

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F. P. CHILLINGWORTH, M. D.

Dr. Felix P. Chillingworth, for nineteen years Professor of Pharmacology and Physiology at Tufts Medical School, died at his camp in Concord. He was fifty-five years old. Dr. Chillingworth was born in New Haven, Conn., and was graduated from Yale Medical School in 1907. He taught at the University of Kansas and Tulane University, and during the World War he was in charge of the leper colony in Louisiana.

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# BOOK REVIEWS

*Public Health and Medical Licensure in the State of Mississippi* 1798-1937: By F. J. Underwood, M. D., and R. N. Whitfield, M. D. Jackson, Miss., Tucker Press, 1938. Pp. 175.

This volume is a revision of the history of public health and medical licensure in Mississippi, compiled by the same authors in 1930. It brings up to date and makes a permanent record of important events and many of the most important contributors in the public health activities in Mississippi since the formation of the Mississippi Territory in 1798.

For almost three decades health work in Mississippi has stood out as a model to be followed by others, in most respects. This enviable reputation has resulted largely from the influence and leadership of two men, Dr. W. S. Leathers, who became State Director of Public Health in 1910, and Executive Officer of the State Board of Health and Dr. Felix J. Underwood, who succeeded Dr. Leathers in 1924.

Reading of the book from cover to cover should be required of every person in a public health position in Mississippi. It would insure personnel well informed on the problems and the activities which it is their duty to meet and improve upon.

C. C. Bass, M. D.

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*Hemorrhoids:* By Marion C. Pruitt. St. Louis. C. V. Mosby, 1938. Pp. 170. Price $4.00.

Approximately one-third of this volume is devoted to embryology, anatomy, the technic of examination, the instruments used and the types of anesthesia employed in operations for removal of hemorrhoids. It is well illustrated and there are seven color plates which further serve to clarify the text.

In the discussion of anesthesia, caudal and trans-sacral block are only casually mentioned. The author was of the opinion that this type anesthesia was tedious, time-consuming and frequently incomplete. No mention was made that the completeness or incompleteness of anesthesia very often depended on the anesthetist. There are many who regard the combination of caudal and trans-sacral anesthesia as preferable for rectal surgery. The author has had more experience with local infiltration anesthesia and prefers this method to any of the others mentioned.

Considerable emphasis was given to the injection treatment of hemorrhoids. It was mentioned that only the simple uncomplicated internal hemorrhoids were suitable for the injection treatment. Whereas, it was also stated that even the large internal hemorrhoids of the third degree, in which the sphincter muscle is relaxed, are suitable for injection. According to the author, under the above conditions, this latter group was also suitable to the injection treatment.

In considering the surgical management of hemorrhoids, the various methods are described: the ligature operation, the clamp and cautery procedure, Whitehead's operation and the method of excision and suture. The author favored the excision and suture method in preference to the others mentioned.

The choice and evaluation of the many methods of treating hemorrhoids are suggested. As the author stated, "It is not today the question of whether piles can be cured by operative, injection, electric, or palliative treatment. The questions are, what is the comparative value of the various methods, and is one method more suitable for a certain kind of case than another."

The subject of hemorrhoids has been completely discussed in this volume. To complete a collection of books concerning diseases of the rectum and anus this should be included.

WARREN H. HEBERT, M. D.

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*On a New Gland in Man and Several Mammals (Glandulae Parathyroideae):* By Ivar Sandstrom. Translated by Carl M. Seipel, edited by Charlotte H. Peters and J. F. Fulton; with biographical notes by Professor J. August Hammar. Baltimore, The Johns Hopkins Press, 1938. Pp. 44. Price $1.00.

This small paper, reprinted from the Bulletin of the Institute of the History of Medicine, makes available in English for the first time Sandstrom's announcement of the discovery of the parathyroid glands. The publishers are to be commended for this English translation of the original paper printed in 1880.

Included in this thin volume are a brief biographic sketch of Sandstrom, a review of the history of the parathyroid glands, and excerpts from a letter written by Sandstrom to his sister. This latter pertinently decries the selfishness of the scientific men of his day who were more concerned with the glories of discoveries than with the intrinsic value of the discoveries.

SYDNEY JACOBS, M. D.

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*Management of the Sick Infant and Child*: By Langley Porter, B. S., M. D., M. R. C. S. (Eng.), L. R. C. P. (Lond.), and William E. Carter, M. D. St. Louis, C. V. Mosby Co., 1938. Pp. 874. Price $10.00.

This volume is divided into sections on symptoms, diseases of all tracts, methods and drugs. It is the most practical and thoroughly up-to-the-minute book that the reviewer has seen. Think of the help to the general practitioner or the pediatrician who has been out of school for a few years, to be able to turn to the chapter on methods and see exactly how to give an intravenous transfusion or the chapter on drugs and find all that is known about sulfanilamide. This is a reference book for the pediatrician and general practitioner and not for the medical student, but I cannot refrain from thinking how he would enjoy the chapter on methods and the detailed explanation of formulae and prescriptions.

SUZANNE SCHAEFER, M. D.

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*Treatment in General Practice:* By Harry Beckman. Philadelphia, W. B. Saunders Company, 1938.

Dr. Beckman has another very valuable edition of his book on therapeutics. He has covered the literature thoroughly, and has brought to the medical student and the practitioner a digest of all that is worth while, both the old and the new in treatment of disease. He considers himself an editor. Therefore, he does not often give his own personal opinion, but gives both sides of controversial subjects in sufficient detail to give adequate understanding of the problem as it exists today. The result is a very satisfactory statement from which the physician may inform himself, and then use his own judgment in deciding which line of treatment he will adopt in any particular case.

The book should continue to be a favorite both for medical students and for practitioners of medicine.

CLYDE BROOKS, M. D.

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*Medical Writings*: By Morris Fishbein, M. D., with the assistance of Jewel F. Whelan. Chicago, American Medical Association Press, 1938. Pp. 212.

Medical Writing represents the "gradual evolution of a pamphlet" which subsequently became the Art and Practice of Medical Writing and which now appears much enlarged in size and increased in context. For the reviewer, the older book has become a well worn desk volume. If the new book is as frequently called upon as the old it too will soon become ragged and worn.

Practically every important procedure, method or technic in the preparation of a manuscript is taken up in this book. It tells how to write a paper and how best to prepare it for the editor or publishers. Following completely the style of diction used by the A. M. A. presses, it can be looked upon as thoroughly authoritative. To editors, authors who are doing much writing, or to their secretaries, this book is indispensable.

J. H. MUSSER, M. D.

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*Anatomy and Physiology of Physical Training*: By Major R. W. Galloway, D. S. O., M. B., Ch. B., R. A. M. C; with an introduction by E. P. Cathcart, LL.D., M. D., D. Sc. Baltimore, William Wood & Company, 1937. Pp. 182. Price $2.50.

This book, while brief, as stated by the author, is quite sufficient to interest and assist those for whom it is primarily intended, namely students and coaches in physical training. I consider the work a superior treatise on this subject and feel that it has a definite place in the physical education department of all high schools and colleges.

WILBUR C. SMITH, M. D.

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*Dextrose Therapy In Everyday Practice*: By E. Martin, Sc. D. New York, Paul B. Hoeber, Inc., 1937. Pp. 451. Price $3.00.

This volume, written in fourteen chapters, is a very complete and lucid summary of the literature

dealing with the therapeutic indications and the methods of administration of glucose solutions. The therapeutic indications for the administration of glucose solutions lead the discussion to fundamental observations on not only carbohydrate metabolism but necessarily to observations on fat and protein metabolism, salt metabolism and the mass movements of body fluids. Much may be learned from the discussions of the pathologic physiology of a large variety of clinical conditions. Since carbohydrate depletion is so intimately associated with states of dehydration, the mechanism of dehydration and its treatment receive ample consideration.

This book should be a valuable addition to the practitioner's library for it bridges the gap between so-called pure science and the clinical application of well established facts; it is a splendid review of the physiology of metabolism, offers a clear understanding of the pathologic physiology of a large variety of disease states with the rationale of treatment, and with its extensive bibliography (2,000) is a splendid review source.

SAMUEL B. NADLER, M. D.

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*Source Book of Orthopaedics*: By Edgar M. Bick, M. A., M. D. Baltimore, William & Wilkins Co., 1937. Pp. 376. Price $4.00.

This volume presents a valuable cross section of orthopedic knowledge. The first few chapters deal with the actual development of orthopedics, and the historical features are very interesting. It shows how orthopedics has developed from the parent trunk of general surgery. The major portion of the book deals with the modern period of orthopedics. Physiology, pathology, and methods of practice are dealt with separately. In the compilation of this work a tremendous amount of work has been spent as evidenced by the extensive bibliographic references following each section.

To any one interested in orthopedics this book is of extreme value. Reading through it is like taking a review course of the entire subject.

G. C. BATTALORA, M. D.

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*The Infant: A Handbook of Modern Treatment*: By Eric Pritchard, M. A., M. D. (Oxon), F. R. C. P. (Lond.). Baltimore, William Wood & Co., 1938. Pp. 744. Price, $6.00.

This volume is delightful reading, but as an actual reference book cannot be strongly recommended. It is interesting to note the English diet and some of the author's daily commendatories for children. The treatment of syphilis, similar to that of Still, and recommended here, is not used extensively in the U. S. We do not value mercury by mouth as highly as does Dr. Pritchard. The treatment of celiac disease, also, varies from the standard of treatment approved in this country. Theoretically it seems correct, but, in practice, the reviewer has never achieved success with this diet. Great stress is laid on the use of vitamins, and correctly, since each day we realize more and more their importance.

S. SCHAEFER, M. D.

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*Elements of Orthopedic Surgery*: By N. Ross Smith. Baltimore, Wm. Wood & Co., 1937. Pp. 246. Price, $4.00.

This small volume is an outline of the commoner orthopedic conditions. It is divided into eleven chapters and three appendices. It is of value for nurses, physiotherapists and other workers in orthopedic hospitals, but is of little value to practitioners and students. The subject matter is too condensed to be of much practical value.

G. C. BATTALORA, M. D.

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*How Ancient Healing Governs Modern Therapeutics*: By K. Ligeros, M. D., Ph. D., New York. G. B. Putman's Sons, 1937. Pp. 532. Price $10.00.

This volume affords considerable of interest to students of medical history for it is the first available work in English on Hellenic medicine by an author who traces his descent to ancient Hellas. Arranged in three distinct sections, the development of philosophy, medicine and the related sciences in ancient Greece are presented with ardor, the particular character and individual development of Greek medicine are exhaustively developed, and the work and accomplishments of Hippocrates enthusiastically related.

Several controversial historical problems are rather dogmatically reopened, not without considerable historical and documentary evidence. The author stresses the fact that Greek medicine of the pre-Homeric and of the Homeric era was divorced from religious doctrine and was in the hands of a well organized cult of ethical physicians rather than in the hands of priests and presents the result of much individual research in support of the belief. A marked nationalistic and historic devotion to Grecian ideals and priority is understandably evident throughout the text. For example, (quote, page 155) "If one examines the medical and surgical writings of the Egyptians, he will be convinced that the race contributed little to the main body of medical knowledge. It is the glorious Greek science which forms the base of modern medical procedure."

The chapters devoted to the Hippocratic teachings are replete with much of the contemporary philosophy and are very readable.

The orthopedic surgeon interested in the earliest history of physical and surgical therapeutics will find many sketches on orthopedic procedures which are not far removed from those in common use today.

M. I. TUCHLER, M. D.

*Vade Mecum of Medical Treatment*: By W. Gordon Sears, M. D., M. R. C. P., (Lond.). Baltimore, William Wood & Co., 1937. Pp. 368. Price $4.00.

As used here, vade mecum means constant companion. Truly, the author has written a book on medical treatment that is small enough, and yet quite inclusive, to be easily kept near at hand. The manner in which the book is written makes it of easy reference, since the individual diseases or conditions are arranged for the greater part in alphabetic order. Though dealing only with treatment, there is a scattering of brief statements on etiology and symptomatology, thereby serving to freshen one's memory. Accepted as the author intends it, the book serves its purpose as a brief outline of therapeutic procedures and agents, most of which have been successfully used over a long period.

At the end of the book, the author has inserted a posologic table. The drugs are alphabetically arranged and this affords quick reference for dosage which is given in both empiric and metric measures.

L. A. Monte, M. D.

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*Papers on Psychoanalysis*: By Ernest Jones, M. D., M. R. C. P. (Lond.). Baltimore, Wm. Wood & Co. 1938. Pp. 643. Price, $8.00.

The fourth edition of this work consists in an admirably produced volume of some six and a half hundred pages. It contains an excellent glossary and an index. Twelve new papers have been inserted.

Curiously, the introduction was written in 1918 and the author states that, were he writing it now, he would alter it to the extent of laying stress on the conscious dislike of unconscious impulses and emphasize the deep dread of their power for harm.

The chapters on Freud's Psychology, The Psythorough-going understanding of psychoanalytic Hate, Jealousy, Psychoanalysis and Psychiatry, are especially interesting and well written but are not more fundamentally important than the others.

As would be expected of Ernest Jones, a thorough-going understanding of psychoanalytic facts and unconscious motivation is demonstrated.

The volume is a long one and amazingly comprehensive in the knowledge which it displays. It is not a book for the use of dilettante readers, but for the serious student, whether beginner or advanced, it will prove both valuable and attractive.

C. P. May, M. D.

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*Atlas of Hematology*: By Edwin E. Osgood and Clarice M. Ashworth. San Francisco, J. W. Stacy, Inc., 1937. Pp. 209. Price $10.00.

The text of this atlas is written by Osgood and is generously illustrated by Ashworth. The author states that the book is intended for clinicians, students, and technicians, rather than for the hematologist, but, in my humble opinion, it would also be of value to the latter. The first part of the book deals with the identification of cells seen both in the blood and in sternal marrow. These cells are so beautifully and clearly illustrated that one should have little difficulty in classifying any cell seen under the microscope, unfamiliar though it may be to the observer. The author introduces a nomenclature of his own, which is, however, well exemplified by synonyms used by other hematologists.

The cells are dealt with by the various series, that is, lymphocyte, monocyte, granulocyte, plasmocyte, and erythrocyte series. The next chapters are devoted to the parasites of the hematopoietic system. He then classifies the anemias and polycythemias and leukemias. The author presents a number of tables for differential diagnoses, which should facilitate the clinician's recognition of such conditions as splenomegaly, hepatomegaly, and infectious diseases. The appendix is devoted to methods recommended for the study of blood and sternal marrow and particularly those found useful by the authors. Next, and finally, he includes a lengthy list of references to enable the reader to locate original articles for more intricate details. This is an ideal reference book for anyone interested in blood and is recommended particularly to medical students for hematologic studies.

Frank Weitz, M. D.

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## PUBLICATIONS RECEIVED

P. Blakiston's Son and Company, Incorporated, Philadelphia: Clinical Atlas of Blood Diseases by A. Piney, M. D., M. R. C. P., and Stanley Wyard, M. D., M. R. C. P.

Lea & Febiger, Philadelphia: Electrotherapy and Light Therapy by Richard Kovacs, M. D. Diseases of the Nose, Throat and Ear by William Lincoln Ballenger, M. D., F. A. C. S., and Howard Charles Ballenger, M. D., F. A. C. S. Practical Otology by Morris Levine, M. D., F. I. C. S.

Charles C. Thomas, Springfield and Baltimore: Sulfanilamide Therapy of Bacterial Infections by Ralph R. Mellon, M. D., Dr. P. H., D. Sc. (Hon.), Paul Gross, M. D., and Frank B. Cooper, M. D.

William Wood and Company, Baltimore: The Occupational Treatment of Mental Illness by John Ivison Russell, M. B., Ch. B., F. R. F. P. S. (Glas.), D. P. M. International Medical Annual edited by H. Letheby Tidy, M. A., M. D. (Oxon.), F. R. C. P. and A. Rendle Short, M. D., B. S., B. Sc., F. R. C. S. An Introduction to Bacteriological Chemistry by C. G. Anderson, Ph. D. (Birm.), D. Bact. (Lond.).